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SOAP and CHEMICAL SPECIALTIES

this issue...

vy duty liquid detergents aim at powder products

* * * *

tomation next step ahead gh speed aerosol filling?

* * * *

S. C. Johnson takes risk of product development

* * * *

chandising needed to push sale of safer brake fluids

A. O. Samuels, newly elected member of the two-man team to manage B. T. Babbitt, Inc., New York. President of Connecticut Chemical Research Corp., and a vice-president of Babbitt, Mr. Samuels brings a broad background in aerosol production and marketing to his new post.

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Paradichlorobenzene • Chloroform
Calcium Chloride

Whatever your product—from basic household or industrial cleanser to luxury bath preparation—SOLVAY's superior forms of sesquicarbonate of soda afford you a combination of advantages found in no other alkali. Available in two virtually dust-free granulations—Snowflake or Snowfine.

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Allied Chemical

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ALLIED CHEMICAL & DYE CORPORATION
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3L-8

THE BOMBS THAT COME FROM NORDA HIT RIGHT ON THE NOSE

You see here why Norda aerosol odors are likely to be superior scents. They must pass the tests of Norda's nose. This is how Norda does it.

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Are you searching for an honest appraisal

to guide you as a private brand distributor

Beauty and Durability

Anti-Slip

Water Resistance

Solid Content

Carnauba Wax

Initial appearance is important, but for a waxed surface to remain beautiful, it must be durable. Durability depends not only on resistance to abrasion of traffic, but even more so on resistance to discoloring marks. Durability should be measured by how long the waxed surface maintains a nice appearance before complete removal and re-waxing is required.

Anti-slip, or reasonable safety underfoot, does not mean that the qualities of beauty and protection need be sacrificed. The proper balance—a wax film which is not excessively slippery, yet which is not tacky and does not collect dirt readily—gives the performance that answers the foremost original reason for use of a floor wax... beauty and protection.

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The percentage of solid content is not nearly as important as the **quality** of the solids. Good quality indicates 12% of solids as the answer for most well planned maintenance programs. Two applications of 12% gives better results than one of 18%. "Washed out" floors and other special problems maintain better when more concentrated waxes are used. Over-waxing and resultant greater difficulty in removal for periodic maintenance may do more harm than good.

The most important features of a good wax ...all-around quality of performance...are built around Carnauba Wax. When refined and compounded with other additives and scientifically controlled in manufacture, Carnauba alone imparts the beauty and protection that makes the use of floor waxes both profitable and possible. Make-shift manufacture or over-emphasis on any one given wax feature should be avoided and proper care taken to provide for most satisfactory performance.

SELF-POLISHING WAXES

Each of Candy's floor waxes are all-around top quality for certain traffic conditions. They impart the finest protection and beauty to floors for which best suited.

CANDY'S SUPREME (standard)
BRIGHT BEAUTY® (standard)
CANDY'S SUPREME Special WR
SUPER CAND-DOX®
CAND-DOX® #CS
CANDI-WAX #6000

All Candy's products are available for private brand resale and are sold only through distributors except for experimental accounts in Chicago essential to research.

Other HIGHEST QUALITY wax products by CANDY & COMPANY

Bright Beauty WAX REMOVER & all-purpose SURFACE CLEANER
For removal of water-emulsion waxes from any floor without harmful effects. It is the perfect maintenance program wax remover and all-purpose surface cleaner. Pleasant odor, crystal clear color and thorough cleaning action with all types of equipment. Unaffected by hard freezing. Furnished ready for resale or in concentrated form for local packaging...nothing but water to buy or mix in.

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A cream furniture polish that spreads easily, polishes without excessive effort to a deep impressive lustre. Permits repeated repolishing with a dry cloth, thus saving many re-applications. A very economical polish of the very highest quality.

Bright Beauty PASTE WAX
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Bright Beauty LIQUID (spirit) PREPARED WAXES
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Bright Beauty GLASS POLISH & CLEANER and SILVER POLISH
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Now you can have dramatic, colorful labeling of your private brand name on all 55, 35, 30, 20 & 15 gal. drums and 5 gal. pails. This added service is accomplished right in our plant...your inspection invited...or write for details.

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2515 W. 35th ST., CHICAGO

Volume XXXIII, No. 8 August, 1957

SOAP and CHEMICAL SPECIALTIES

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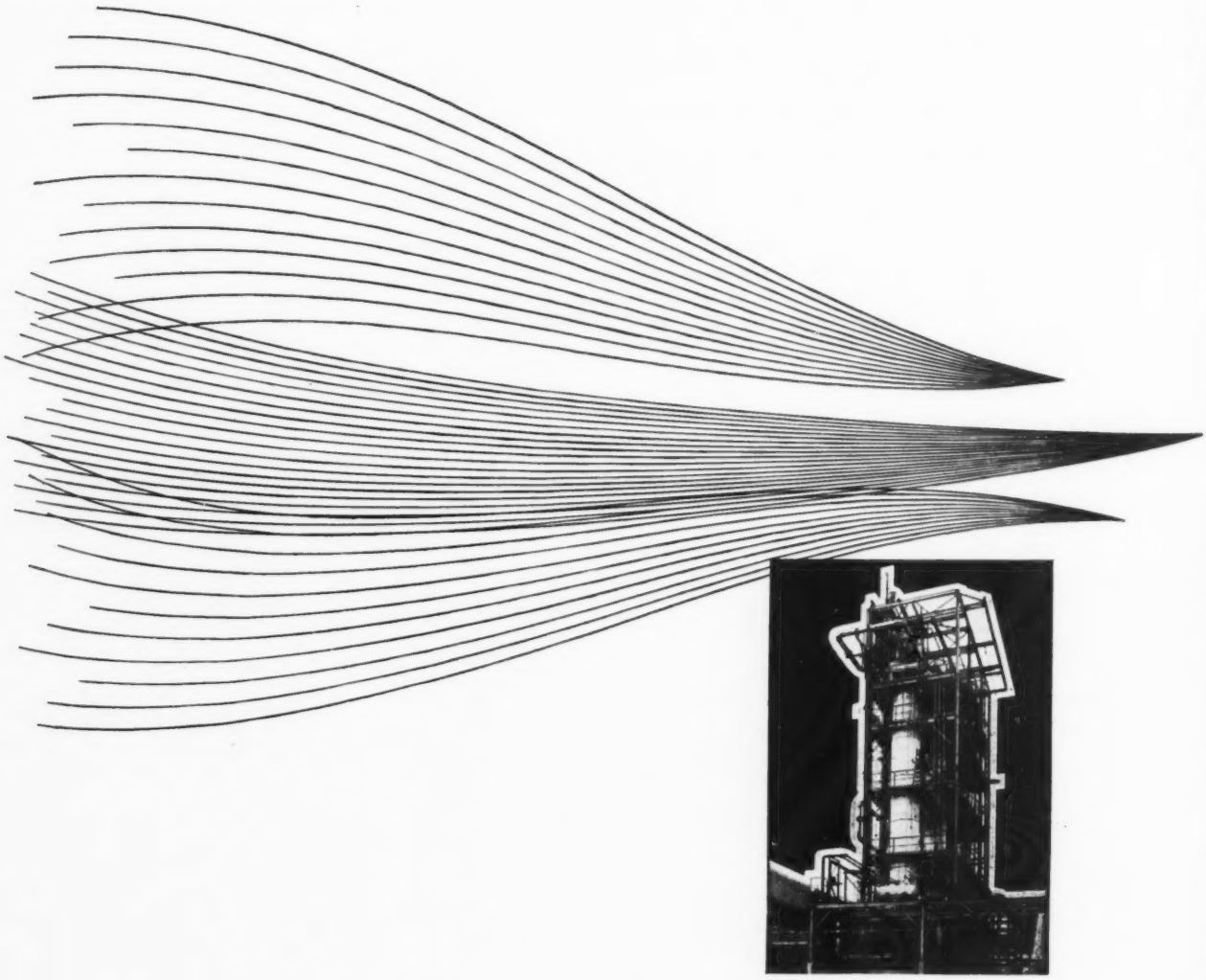
Something you ought to know

about some people who are—

or can be—important to you . . . AND WHAT THEY ACHIEVED WITH LAURIC ACID.....



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Pure lauric acid was first made by Armour Chemical who today continues as the major supplier—setting industry standards for purity, color and stability with Neo-Fat® 12.

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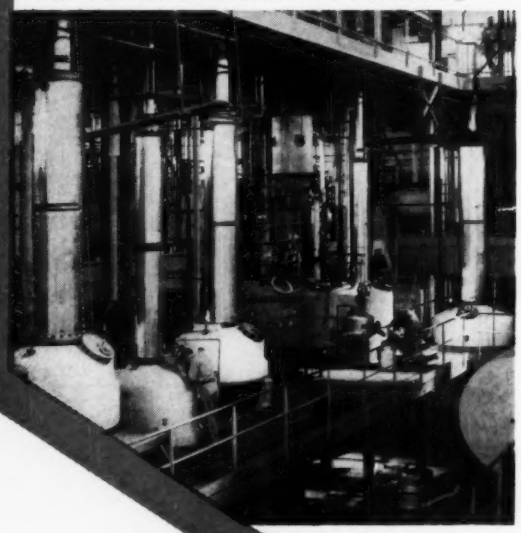
Compressors and refrigeration units.

the new perfumery raw materials completely independent of any natural source

Part of the still area in the General Process Building.



No longer need the perfume designer or manufacturer be subject to the esthetic or economic uncertainties of natural sources for many of the most important basic materials. Years of intensive research by Hoffmann-La Roche have resulted in the development of completely pure chemical substances which will now be in constant supply without speculation and wide fluctuation in prices. Unvarying purity—from pound to pound, from ton to ton—is assured by the process itself as well as by the large, new plant designed and built to fit this process.

Esthetically, 'Roche' Aromatics offer the perfumer unexplored possibilities for new, interesting fragrances.

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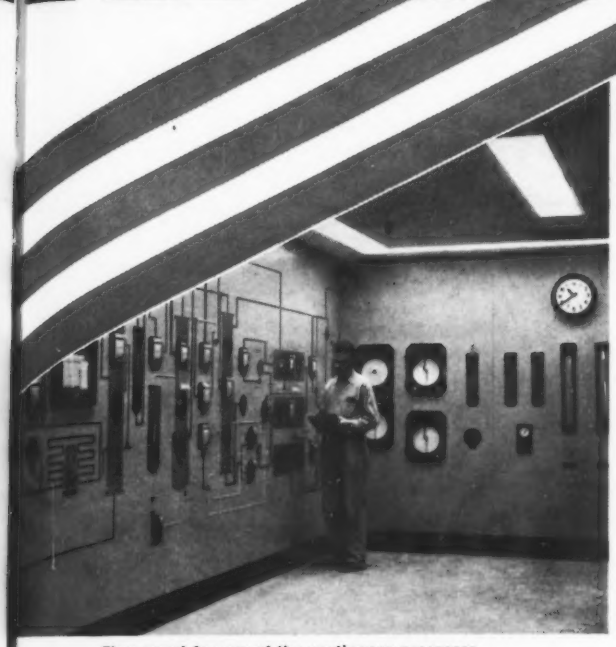
Aromatics



Flow panel for one of the continuous processes.

For new art and economics in perfumery
Roche' Aromatics are available through
principal essential oil distributors

Processing of 'Roche' Aromatics progresses through these three newly completed buildings at Roche Park. In the foreground is the General Process Building, next the Diketene Building, and (to the left) the Ethynylation Building.

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LINALOOL 'Roche'
A purer material than any previously offered to the industry. Free from the impurities present in the linalool from natural sources. Contains no other alcohols or terpenes. Olfactorily pure and floral in character. No residual 'after odor.' Unusually stable in soap.

LINALYL ACETATE 'Roche'
A very pure linalyl acetate containing no other esters and no terpenes. The Roche special process also precludes the formation of any other alcohols during the esterification process. Olfactorily pure and clean in odor. No residual 'after odor.' Unusually stable in soap.

GERANYL ACETONE 'Roche'
A completely new synthetic aromatic. Possesses a soft green odor with a rose note. A good base for synthetic lavender, geranium and rose bouquet. Stable in soap.

NEROLIDOL 'Roche'
Pure nerolidol. Light balsamic odor. Excellent fixative. Blends well with any perfume compound.

Detailed information on each product will be furnished on request.

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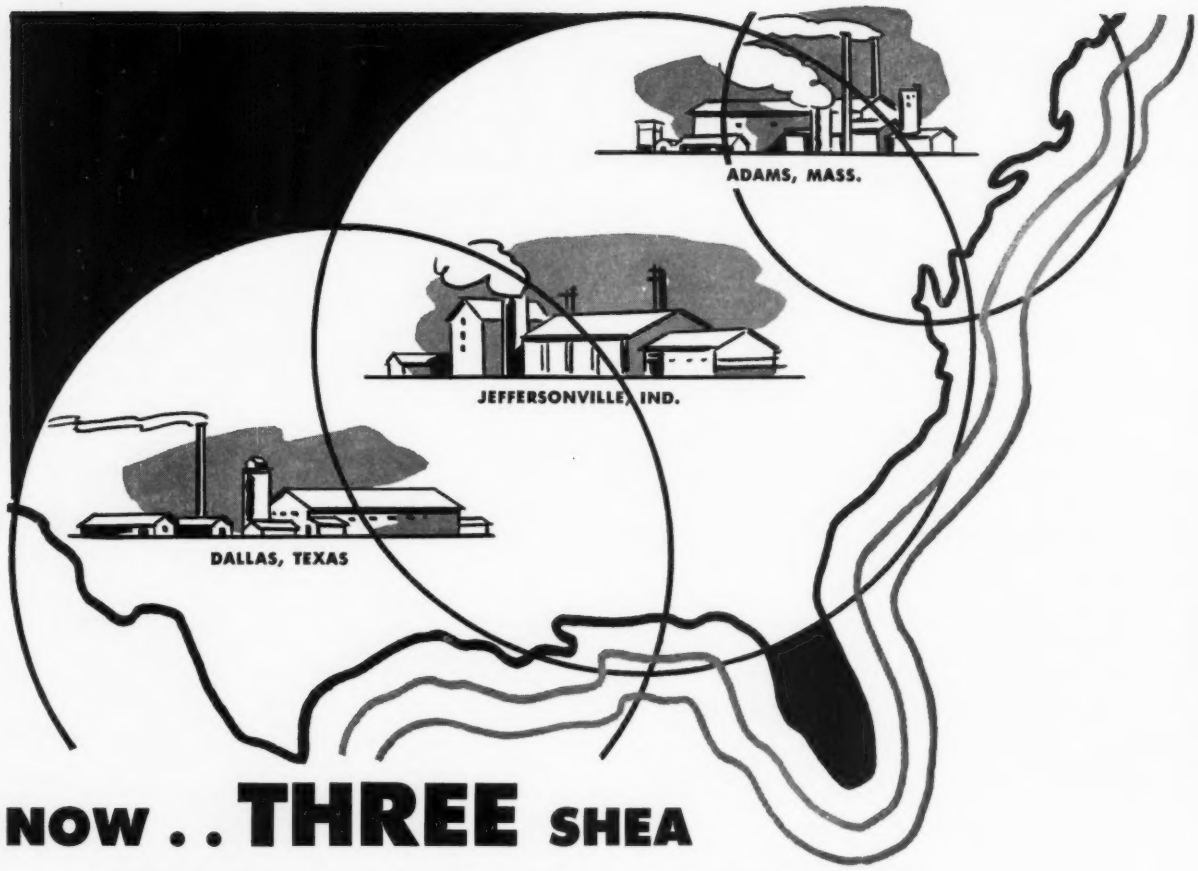

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The finest sodium phosphates in the world aren't worth much—unless you can get them *when you want them.* Shea's new multiple production program—with plants in Adams, Mass., Jeffersonville, Ind., and Dallas, Tex.—assure prompt delivery of Shea's top quality sodium phosphates.

Shea's three plants—supported by its newly doubled elemental phosphorus production—give you "triple depth" as unfailing sources of supply.

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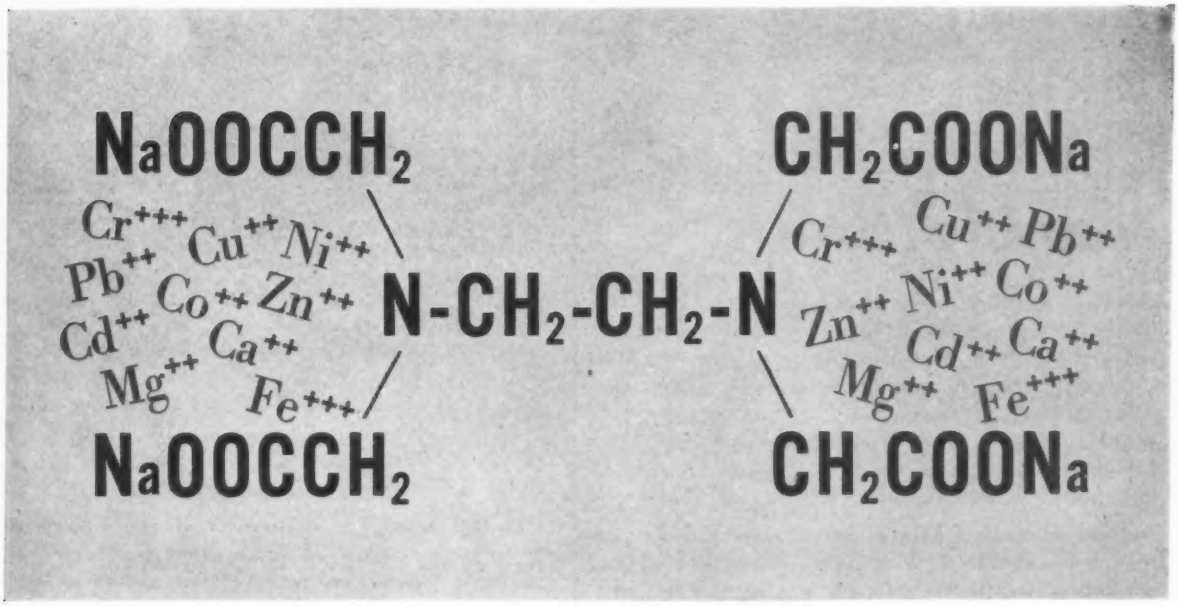
Announcing Cyanamid

CYQUEST* 40

SEQUESTERING AGENT



..."handcuffs" *for troublesome metal ions*

A very small amount of Cyanamid's CYQUEST 40 will "knock down, tie up, and put away for good" those divalent and trivalent metal ions that trigger undesirable reactions and affect the color, clarity, stability or performance of your product. CYQUEST 40 Sequestering Agent is the tetrasodium salt of ethylenediamine tetraacetate, known to its friends as EDTA, and known to its users as the most effective producer of stable metal chelate complexes.

As we have implied, our new CYQUEST 40 is a remarkably effective sequestering agent—and this is true through the widest range of both product formulation and product use. It is a clear, 40% solution of the active ingredient, packed in convenient double-polyethylene-lined fiber drums of 15- and 35-gallon capacity.

Your nearest Cyanamid office will be very happy to cooperate in making our product and services available to you. The more cautious may wish descriptive literature and a sample first... these can be had for the asking.

*Trademark

CYANAMID

American Cyanamid Company
Manufacturers Chemicals Department
30 Rockefeller Plaza
New York 20, New York

Gentlemen:
Please send me

☐ Data sheet on CYQUEST 40 ☐ Sample of CYQUEST 40

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RENEX® Reports

CHEMICALS DIVISION
ATLAS POWDER COMPANY, WILMINGTON 99, DELAWARE
Atlas Powder Company, Canada, Ltd., Brantford, Ontario, Canada

Tips for Textile Chemical Manufacturers

If you're in the business of supplying the textile industry with processing chemicals, you can get a wide range of surfactant properties for use in your formulas by choosing from the varied line that Atlas makes. The Atlas HLB system saves you time in finding the best surfactant for your specific job. You're sure of quality, for all our materials are made to highest standards of uniformity . . . and are priced economically, too.

In the wide range of Atlas surfactants, you'll find types that you can use as anti-static agents, detergents, emulsifiers, lubricants, softeners and as various combinations of these uses. Among the detergents that you may select for scouring, desizing and wetting are the Renex 600 series, whose properties are listed below. For a concentrated look at the complete line, write for a copy of the booklet, "How Atlas Surfactants Serve the Textile Industry."

Tailor-making laundry compounds

Non-ionics, as used in home laundry compounds, generally fall into one of three classes: non-ionic detergent with alkali (often preferred for wool washing), non-ionic plus soap, and non-ionic plus sulfonate. Their foaming properties tend to increase as you go from the first to the third type in the order mentioned.

How do you get the foam control, detergency and hard water action you want—at a price that makes your particular product competitive? The answer we recommend is to use the Renex detergent family. One of the group listed in the table below is sure to offer just the characteristics your laundry compound needs.

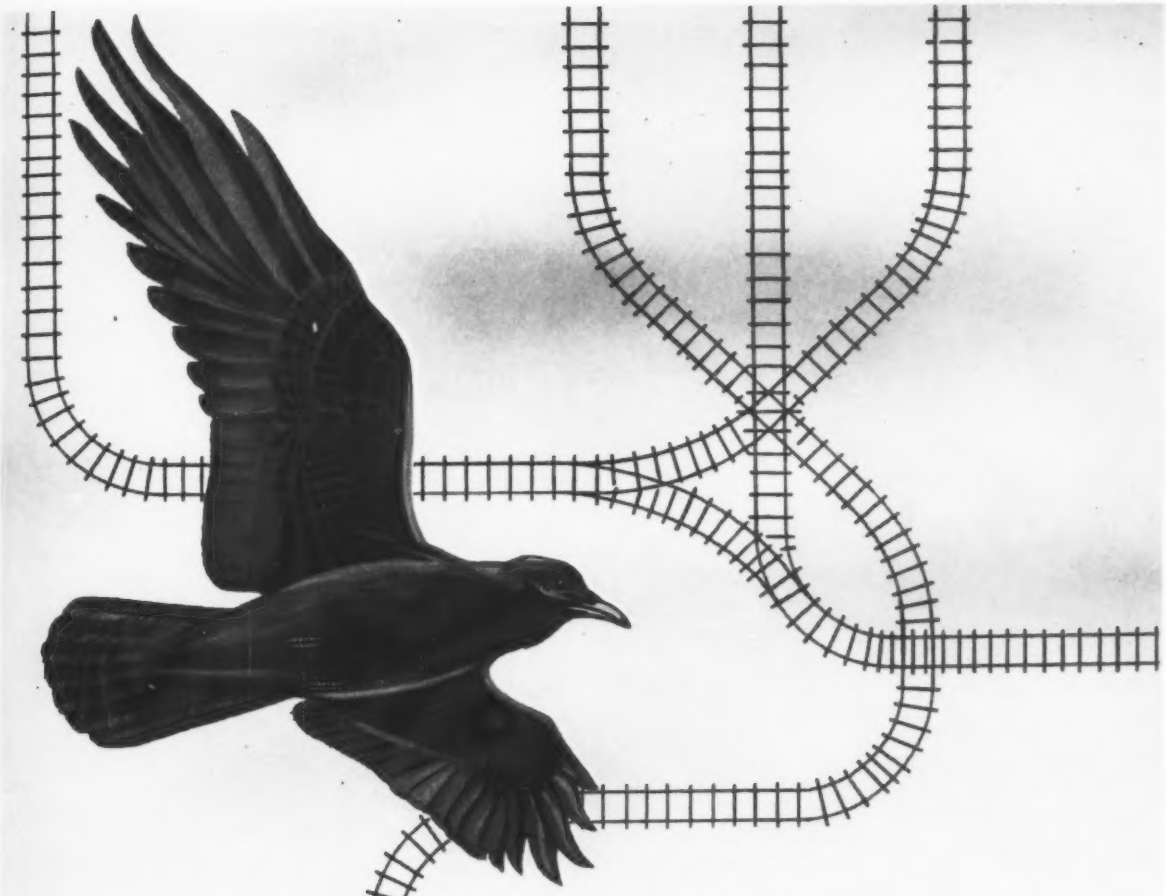
Write to us for samples of these Renex materials . . . and for recommended formulas using them in various home laundry preparations.

Formulate to fit your needs with the RENEX 600 detergent family

RENEX No.	648	697	688	698	690	678	650
Mols ETO	5	6	8	9–9.5	10	15	30
Form @ 25° C.	liquid	liquid	liquid	liquid	liquid	liquid	solid
HLB No.	10	10.9	12.3	13	13.3	15	17.1
Wetting @ 25° C. (% soln. req. for 25 sec. wet)	— —	.1 .2	.06 .08	.05 .07	.05 .07	.3 .5	>1
Foam height (Ross-Miles, mm .05% soln. @ 25° C.)	11	11	17	26	40	83	71
Cloud Point °F. (1% soln.)	—	<32	87	129	150	211	>212
Water solubility *	I	D	D	S	S	S	S

* I—insoluble
D—dispersible
S—soluble

NOTE: These data represent typical characteristics rather than guaranteed specifications.



but caustic isn't shipped "as the crow flies"

CAUSTIC SODA

Liquid 73%
Liquid 50%, Regular
and Low-Chloride Grades
Flake, Solid and Ground, 76% Na_2O

CAUSTIC POTASH

45% and 50% Liquid
Flake and Solid

Figuring delivery time and cost on alkalis isn't as simple as drawing straight lines on a map. You've got to reckon with such facts of life as market-competitive rates, routing, lay-overs and interchange points.

Westvaco gives exceptional service on Caustic Soda and Caustic Potash to many consumers who actually are nearer on the map to other producing points. Our location at South Charleston, W. Va. is central to the industrial East, Middle West and Mid-South, with ready access to trunkline railways, highways and waterways. We can frequently deliver at your plant days sooner than suppliers much closer "as the crow flies".

Next time you are in the market for caustic, try Westvaco. You'll find us an unusually alert and dependable source of supply.

fmc chemicals

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ANNOUNCING...a totally new concept in shampoo formulation

DU PONT *Duponol*® XL

"Duponol" XL is a brand-new product especially developed for clear, liquid shampoos. It is *chemically different* than any other shampoo detergent. With it, you'll not only produce a shampoo with all the qualities most sought after by consumers; you will simplify your formulation as well.

We call "Duponol" XL a pseudo-amphoteric because it contains two hydrophilic sites—one, an amphoteric structure, the other an anionic sulfate. Combined, they offer features unmatched in other shampoo detergents. "Duponol" XL, for example, provides the greatest foaming power of any known detergent, and *without* additives. It will eliminate the need for drying and degreasing controls in your formulation. It is *substantive*—gives a pleasant, soft "feel" to hair and skin, yet can be modified or plasticized as you wish.

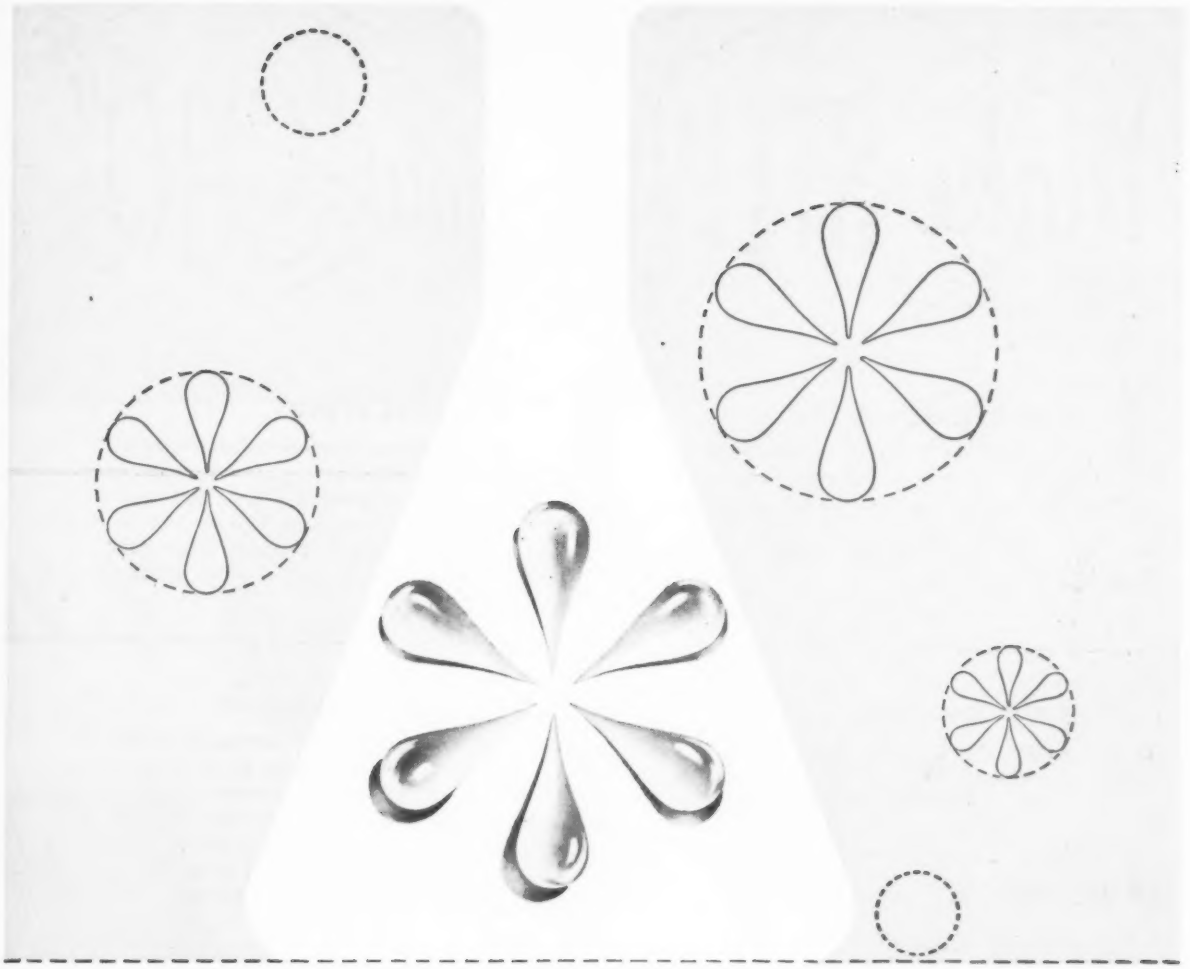
"Duponol" XL gives shampoos true cosmetic elegance . . . a pale golden amber color that will not fade or discolor on display. And formulation involves only simple dilution plus thickening to desired viscosity.

We've made some unusual claims for "Duponol" XL. They weren't made lightly. We think the proof is simple: Write to us for a sample, then *wash your hands with it.* "Duponol" XL itself will do the convincing. E. I. du Pont de Nemours & Co. (Inc.), Organic Chemicals Department, Dyes and Chemicals Division, Wilmington 98, Delaware.

DU PONT
REG. U. S. PAT. OFF.

Better Things for Better Living . . . *through Chemistry*

DU PONT *Duponol* XL
SURFACE ACTIVE AGENT



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Your convenient source is SHELL

When you order ethyl alcohol from Shell Chemical, you can be sure the product is of the highest quality, meeting or surpassing Federal and commercial specifications for purity.

Shell ethyl alcohol is available promptly in any quantity, from a drum to a tank car. It is supplied as pure alcohol (190 proof), in specially denatured grades, and as Neosol®, Neosol A® and Filmcol® Proprietary Solvents.

To make fastest possible delivery to you, denaturing plants have been located in key industrial centers. Shipping facilities include full and compartmented tank cars and trucks; drum carloads and drums. Your Shell Chemical representative will be glad to discuss your alcohol requirements with you. Just write or telephone.

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SHELL

Make STEPAN Your "SHQ"*

*(surfactant headquarters)

LAURYL SULFATES

Higher carbon chain fatty alcohol sulfates including sodium, ammonium, diethanolamine, triethanolamine and magnesium salts. These products offer a high degree of uniformity and are available in paste, liquid or powder form.

ETHOXYLATING

The new Stepan Plant near Joliet, Illinois, is fully equipped to serve your requirements for reactions involving a labile hydrogen atom and ethylene oxide. Also available is custom esterification involving fatty acid and an amide, alcohol or other similar compounds.

NON-IONICS

Stepan offers a wide selection of fatty acid-amine condensate type of non-ionics as well as nonyl phenoxy polyoxyethylene ethanol type non-ionic detergent and emulsifiers for all types of cleaning formulations.

CUSTOM BLENDING

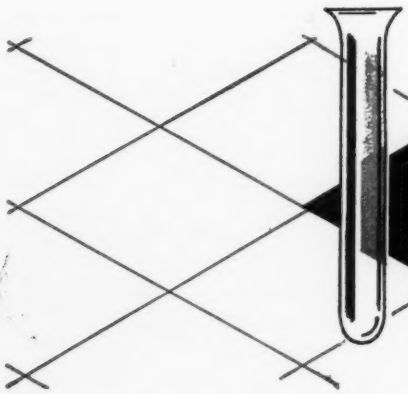
The completeness of the Stepan line makes possible important savings. From this wide selection less than carload ingredients totalling a carload where suitable can be blended at small additional cost and carload price effected. Or, the individual items can be shipped as mixed carload at carload prices.

ALKYLOLAMIDES

Both conventional and new high purity alkylolamides. Stepan high purity amides have a guaranteed minimum amide content of 90%. Also amides to your specifications. Our large capacity may well effect important savings for you.

LABORATORY FACILITIES

The Stepan Chemical Company has complete laboratory facilities to assist you in every way possible toward developing the product most suitable to your needs. Our technical staff will also be pleased to consult with you on new products as well as new applications of our present products.



STEPAN
CHEMICAL COMPANY

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p&S

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Essential Oils

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- continuous or batch processing
- oleum or SO_3

Oronite Alkane continues to remain the standard of quality in detergent raw materials, regardless of end-use or processing method. The soap industry judges Oronite Alkane best for color and odor, for having the least amount of unsulfonatable oils, for producing spray dried detergents with the least stickiness or caking tendencies.

Oronite is not only the world's leading producer of detergent raw materials, but is also foremost in providing technical assistance on detergent processing. Consistent with this, Oronite has just made available a new brochure on a continuous sulfonation-neutralization plant. For complete information just contact the Oronite office nearest you.

ORONITE CHEMICAL COMPANY

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36, Avenue William-Favre, Geneva, Switzerland

*TRADEMARK FOR DETERGENT INTERMEDIATE

4377

After Closing

Louis Neuberg Dies

Louis Neuberg, 65, vice-president of the chemicals division of Food - Machinery and Chemical Corp., New York, died July 30 at his home in Colonia, N. J.

Mr. Neuberg served as plant manager of Westvaco Chemical Co. in Carteret, N. J., from 1914 to 1930, when he became vice-president in charge of sales. He was named to his most recent position in 1948. He was also vice-president and secretary of Enco Chemical Corp., New York.

Surviving are his wife, Mrs. Lillian Bauerle Neuberg, and two brothers, Frederick A. and William D. Neuberg.

★

O-I Sales Higher

Owens - Illinois Glass Co., Toledo, last month reported an increase in sales and a decline in income and earnings for the first half of 1957. Net sales totaled $247,456,069, as compared with $239,086,310, last year. Net income was $17,097,196, equal to share earnings of $2.16, as against $17,316,919, in the first six months of 1956. Last year's results included operations of National Container Corp., New York, which was merged with O-I in October.

★

Colgate Appoints Hilbrant

Appointment of Robert E. Hilbrant as director of marketing for the toilet articles division of Colgate-Palmolive Co., New York, was announced late last month by C. G. Grace, division vice-president. In his new position, Mr. Hilbrant will supervise and coordinate all of the division's marketing activities, with the general product manager, general sales manager, and manager of market research reporting directly to him.

Mr. Hilbrant became associated with Colgate in 1924 and served in many different capacities in the toilet articles department before becoming its manager. He was

Robert E. Hilbrant

named a vice-president of Colgate-Palmolive in 1954 and was elected to the board of directors in June, 1956.

★

CSMA Fills Florida Hotel

The Chemical Specialties Manufacturers Association has exceeded its allocation of hotel reservations at the Hollywood Beach Hotel for its 44th annual meeting to be held there Dec. 9-12. According to H. W. Hamilton, CSMA secretary, all late registrants for the convention will be accommodated at a nearby, first class ocean front hotel. They will be accorded full privileges at the Hollywood Beach Hotel. Reservation applications may still be secured from CSMA, 50 East 41st St., New York 17.

★

"Insect Week" in Georgia

Gov. Marvin E. Griffin late last month proclaimed Aug. 18-24 as "Insect Control Week" in the state of Georgia. Announcement was made by E. E. Heuermann, Atlanta district manager of Shell Chemical Corp., New York, who will supervise planning for the week for the Georgia Entomological Society.

According to Governor Griffin, "Insect Control Week" is intended to emphasize the great loss of crops caused annually by insects in Georgia and to promote measures that would reduce this loss. Mr. Heuermann said that the GES would stress control of insects through use of agricultural chemicals and other recent scientific advances in food production.

★

May Buy J. B. Williams

Pharmaceuticals, Inc., founded as Serutan Co., Newark, N.J., last month submitted a cash offer to stockholders of J. B. Williams Co., Glastonbury, Conn. The cost of purchasing preferred and common stock and of taking over debentures would be about $5,400,000. J. B. Williams owns "Skol" suntan lotion, "Conti" shampoo and "Kreml" hair tonic.

The transaction is said to have the support of the J. B. Williams management. The 117 year old firm would be run as a wholly owned subsidiary of Pharmaceuticals, Inc., according to Matthew Rosenhaus who heads the proprietary medicine house.

★

Record Surfactant Sales

Production and sales of surface active agents in 1956 hit a record high of 1,073 billion pounds and 988 million pounds, respectively, according to the preliminary report of the U.S. Tariff Commission, published last month. This represents a 4.1 per cent increase in production and a 26,000,000 pound rise in sales against the preceding year. As in other branches of industry though, profits dropped while sales went up. Sales in 1956 were valued at $205,000,000, off $25,000,000 from last year's figure.

The severest loss in profits occurred in the cyclic group which includes dodecylbenzene sulfonic acid type surfactants and accounts for 42 per cent of the entire surfactant business. Production amounted to 685,000,000 pounds, seven per cent more than in 1955; sales were

31,000,000 pounds ahead of the previous year. However, the value of these sales dropped $28,000,000 from the value reported for 1955 to a total of $108,000,000.

Acylic surface active agents, including sulfated and sulfonated alcohols and ethers showed a very slight drop in production, 388,000,000 pounds in 1956, compared with 389,000,000 pounds in 1955. Sales were up 4,000,000 pounds over 1955, reaching a total of 365,000,000 pounds. In this group the sales value increased along with the tonnage to $97,000,000, $4,000,000 more than in 1955.

—★—

CSMA Luncheon Sept. 16

First consideration of a possible film on aerosols for television showings throughout the country and three short addresses by prominent members of the association will highlight the general luncheon meeting during the two-day gathering of the board of governors of the Chemical Specialties Manufacturers Assn. in New York, Sept. 16-17. The luncheon meeting, to be held Sept. 16, also at the Hotel Commodore, is open to all members of the CSMA.

In addition to meetings of the board of governors in the afternoons of the two days, various administrative committees of the six divisions of which CSMA is composed will meet. Plans for the coming 43rd annual meeting of CSMA at the Hollywood Beach Hotel, Hollywood, Fla., Dec. 9-12 will be discussed by the board and committees. Program details will also be reported on during the meeting of the board of governors, according to H. W. Hamilton, CSMA secretary.

—★—

C-P Earnings Higher

Colgate-Palmolive Co., New York, last month reported an increase in income and earnings in the first half of 1957. Net income amounted to $5,442,000, equal to share earnings of $2.09. This compared with $4,406,000 and $1.68, in the corresponding period of 1956. Net sales for the six months ended June 30 dropped slightly to $254,784,000 from $256,396,000, in the first half of 1956.

In the second quarter of 1957, Colgate's net earnings rose to $2,718,446, or $1.04 per common share, from $1,785,417, or 67 cents per share, in the same period last year. However, domestic sales fell to $66,387,244 from $78,008,350, in the second quarter of 1956.

"Beau," a new odorless, silicone furniture polish, manufactured by Butcher Polish Co., Malden, Mass., comes in two sizes—a six ounce bottle, which retails for $1.00, and a 12 ounce bottle, priced at $1.75. Product is said to have a mild fragrance which vanishes quickly. Its contents include dimethyl silicone oil, produced by Union Carbide Corp., N.Y.

—★—

Tolerance for Toxaphene

A tolerance for toxaphene residues in the fat of beef cattle, sheep and goats has been conditionally approved last month by the Food and Drug Administration. The tolerance was set at seven parts per million. A minimum period of four weeks must elapse between last application of toxaphene or ingestion of toxaphene treated feed and slaughter.

Application for a similar tolerance ruling relating to residues in the fat of hogs was withdrawn by the petitioner.

While residue tolerances in the fat of animals have been set for toxaphene and at earlier dates for methoxychlor and DDT, no such tolerance has been ruled for residues in milk.

—★—

"Gibberellins" by Velsicol

Commercial quantities of "Gibberellins" plant growth stimulant are now available from Velsicol Chemical Corp., Chicago, it was announced last month. Based on gibberellic acid, Velsicol's new product is intended for formulation of products to increase plant growth, speed germination and promote early flowering. The compound is suitable for a wide range of horticultural and agricultural applications.

Formulation data and other pertinent details are available from Velsicol at 330 East Grand Avenue, Chicago 11.

—★—

Hooker Advances Sconce

Appointment of James S. Sconce as technical assistant to management of Hooker Electrochemical Co., Niagara Falls, N. Y., was announced recently by Earl L. Whitford, vice-president. Mr. Sconce formerly was manager of chemical research.

New Insecticide Base

Development of improved "Pyrenone" concentrates for use as a base for non-staining insecticides was announced late last month by Fairfield Chemical Division of Food Machinery and Chemical Corp., New York. According to John A. Rodda, Fairfield manager, the new concentrates are non-toxic and suitable for use in exacting formulations and automatic treadle sprayers, aerosol containers and conventional pump-type sprayers.

★

Diversey Income Lower

Diversey Corp., Chicago, recently reported a decline in income and earnings for the first six months of 1957. Net income in the six months ended June 30 totaled $231,902, equal to share earnings of 88 cents. This compared to $234,499 and 91 cents, in the 1956 first half.

In the second quarter of 1957 the company reported a net income of $161,967, equal to share earnings of 61 cents. This compared with $187,257 and 72 cents in the second quarter of 1956.

New Gen. Chemical V. P.'s

Appointments of Irb H. Fooshee as executive vice-president and James G. Fox as vice-president of General Chemical Division of Allied Chemical & Dye Corp., New York, were announced last month by Chester M. Brown, president.

Mr. Fooshee had been vice-president in charge of development since 1954. He joined the company in 1947 as assistant to the president, subsequently serving as director of operations and director of development.

Irb H. Fooshee

Mr. Fox has been a member of the General Chemical organization for 31 years, the last 20 of which have been in production supervisory positions, as assistant works manager, assistant director of operations, director of production and director of operations.

James G. Fox

★

Wolf Moves in California

The western division of Jacques Wolf & Co., Passaic, N. J., has moved to a new modern warehouse and office at 1916 Borden Ave., Torrance, Calif., it was announced recently by G. J. Desmond, vice-president. The division previously was located at 4308 South Broadway, Los Angeles 37. The new office will operate under direction of A. H. Roberts.

A new non-slip coating for use on concrete, wood, metal, brick or terrazzo floors, was introduced recently by Walton - March, Highland, Ill. Called "NSC," the product can be applied by sprayer, roller, or brush. It is claimed to be water and fire-proof and comes in light and dark gray, red and green and is packaged in one gallon container.

★

'Profume' New Brand Name

Dow Chemical Co., Midland, Mich., recently announced a new tradename for its methyl bromide odorizing agent. The product, which contains chloropicrin, will be called "Profume." It is used as a fumigant to protect stored commodities against insects and rodents and formerly was known as methyl bromide odorized with chloropicrin.

★

Rohm & Haas Income Up

Net income of Rohm & Haas Co., Philadelphia, for the first half of 1957 rose to $8,272,000, equal to share earnings of $7.82. This compares with $7,785,000 and $7.35 last year.

In the second quarter of this year, income of $4,170,000, equal to share earnings of $3.94, compared with $3,569,000 and $3.36, last year was reported.

A new rug and carpet cleaner for use on all colors and fabrics, including nylon, cotton, rayon, viscose and blends, was introduced recently by the Duo Dellay Products Division of Artloom Carpet Co., Baltimore. Tradenamed "Dry-Klean," the new product comes in power form, requires no special equipment to apply, and is said to remove grease, oily stains, food, soil and dirt. One gallon of powder is claimed to clean 450 square feet of carpeting.

Aerosol Symposium Aug. 20

Final plans for the first annual aerosol symposium for pharmaceutical manufacturers, to be held Tuesday, Aug. 20 at the Philadelphia College of Pharmacy and Science, were announced late last month. The meeting, which was organized by the college to stimulate interests in aerosols by pharmaceutical concerns, will feature talks by representatives of valve, container and propellant producers.

First speaker of the all-day meeting will be Thomas D. Johnson, Jr., "Freon" products division of E. I. du Pont de Nemours & Co., Wilmington, Del., who will discuss "The Aerosol Market," The morning portion of the program will be completed with talks on "The Aerosol Package." David S. Tilotson, "Isotron" sales department of Pennsalt Chemicals Corp., Philadelphia, will discuss propellants, while W. Earl Graham, of the Can Division, Crown Cork & Seal Co., Philadelphia and Walter E. Beard, Jr., Risdon Manufacturing Co., Naugatuck, Conn., will speak on containers and valves, respectively. Dr. Martin Barr, organizer of the symposium and director of the college's aerosol study program, will moderate these dicussions.

In the afternoon, Dr. Barr will talk on "Possible Pharmaceutical Applications for Aerosols." Robert A. Foresman will make the final presentation of the meeting with a paper on "Laws of Entering the Aerosol Field."

The seminar, for which there is a ten dollar registration fee, will begin at 9:15 a.m. and conclude about 4:30 p.m.

★

Cites TV Shampoo Advtg.

The Federal Trade Commission lodged a complaint against Lanolin Plus, Inc., Chicago, charging the firm's shampoo advertising on TV might "frighten beauty conscious young girls".

The commission objected to the pictures and words of a commercial showing a model washing her hair and looking up startled at the words "Stop! Don't burn your hair . . . with detergent shampoos!"

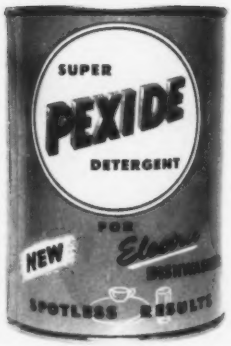
The complaint said that the sequence is false and misleading and violates the FTC act. Actually, it said, detergent shampoos do not burn the hair.

★

Alabama Brake Fluid Bill

Legislation regulating the sale of brake fluid in Alabama was introduced recently as House Bill 659 and Senate Bill 352. If passed, the law will become effective January 1, 1958. The bills provide for annual registration fees of $50 per brand. Brake fluid in the state must meet SAE standard No. 70-R-1 for heavy duty type.

Adolph Schwarz, president of Polak & Schwarz, world-wide perfuming organization with headquarters in Zaandham, Holland, while in New York, last month announced the beginning of operation of its new Niro spray dryer. The dryer, operated by Polak & Schwarz of New York, at its flavor manufacturing plant in Teterboro, N.J., is housed in a wing of a recently completed addition. The unit is designed for use in the production of powdered flavors. Polak & Schwarz claims to be a pioneer in this development in Europe.



"Super Pexide," chlorinated detergent for mechanical dishwashers, manufactured by Peck's Products Co., St. Louis, is now available in 34-ounce hermetically sealed cans. The new containers are water and airproof and are packed 24 to a case. Product can be used in any type of electric dishwasher and in water of any degree of hardness.

★

Oronite Personnel Changes

Oronite Chemical Co., San Francisco, recently announced the appointment of H. I. Allen as head of the technical service group of its marketing department. Mr. Allen succeeds M. P. Youker, who recently was named assistant manager of the western export division.

At the same time, it was announced that Thomas J. Shea has joined the company as New York sales representative.

★

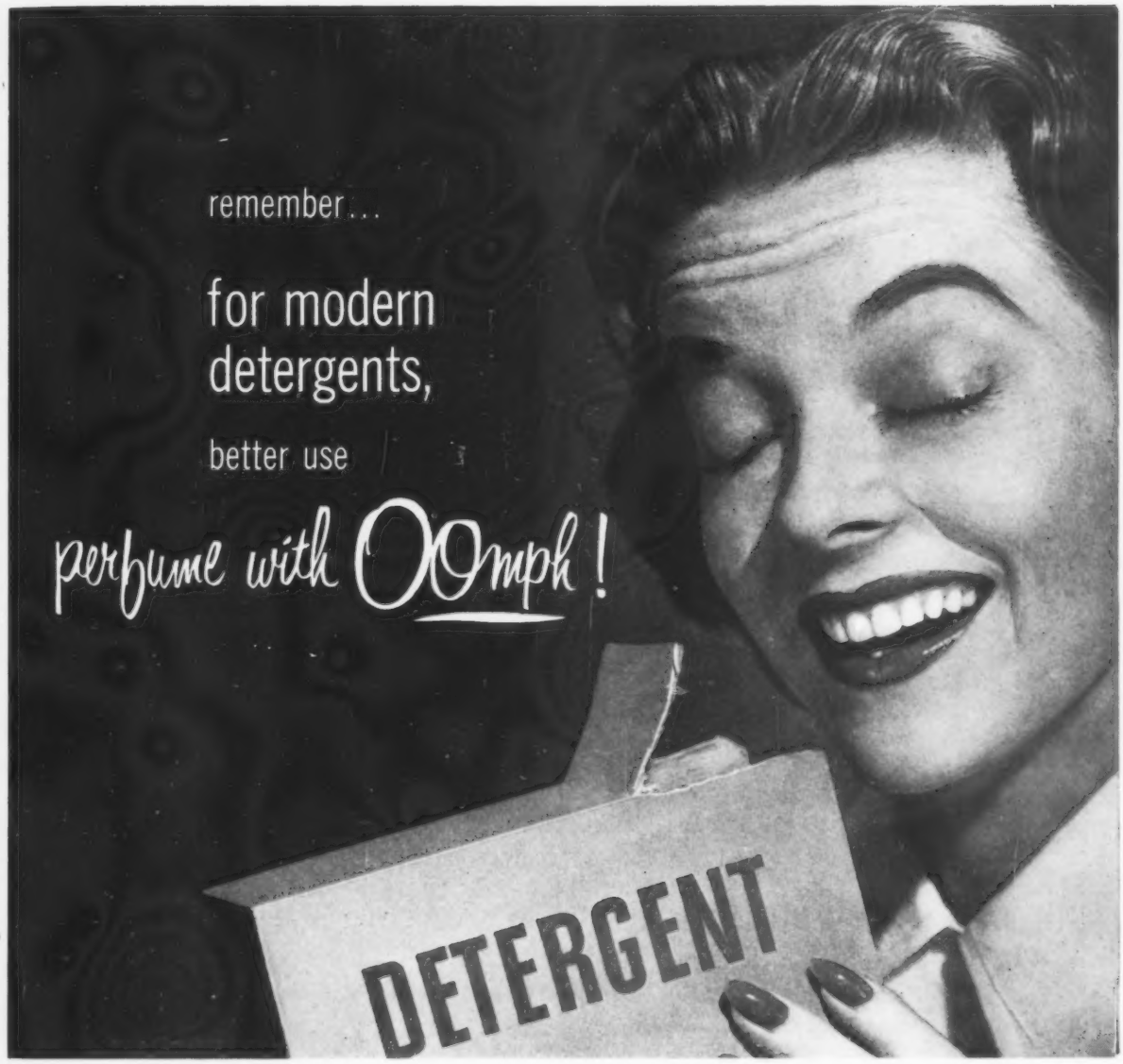
American Alcolac Elects

American Alcolac Corp., Baltimore, recently announced the election of Frank J. Weibel to its board of directors. Mr. Weibel formerly was vice-president of Roure-Dupont, Inc., New York.

★

Stanley Advances Goodrich

Election of Foster E. Goodrich as vice-president in charge of sales was announced late last month by Stanley Home Products Corp., Easthampton, Mass. Mr. Goodrich has been associated with Stanley since 1932 and previously was general sales manager.



Modern detergents present special scenting problems which have received careful technical attention from Felton Chemists.

Using ordinary oils to perfume a detergent is like sending a boy to do a man's job. As a result of applied research and innumerable tests with every type of detergent, Felton is able to offer the manufacturer highly dependable perfume oils that simply won't *whiten-out*.

AROMATICS • ESSENTIAL OILS • PERFUME BASES

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PLANTS: Brooklyn, N. Y. • Los Angeles, Cal. • Montreal, Que. • Versailles (S&O) Franc
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Felton Detergent Perfumes have what it takes!

Tell us about your detergent product and its use; we will be very glad to send you suitable perfume samples.

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NOW–Assured Supply ...from Antara

★ NOW IN FULL PRODUCTION – Antara Chemicals' new surfactants plant at Calvert City, Ky.

● Linden, N. J. and Rensselaer, N.Y., plants and warehouses, where surfactants are produced and stored.

✱ Tank farm at Alameda, Calif., supplied in bulk by ship from Linden, N. J.

● Additional warehouses, where supplies of all surfactants are kept for speedy delivery.

Charlotte, N. C.	*Houston, Tex.*	*Chattanooga, Tenn.*	*Providence, R. I.*
Chicago, Ill.	*Portland, Ore.*	*Los Angeles, Calif.*	*San Francisco, Calif.*

Antara's new surfactant chemicals plant at Calvert City, Ky. is now in full production of **Alkylphenols, Igepal®** and **Alipal®**. This represents another step in GAF's program to assure continuity of supply by means of multi-plant production facilities and nation-wide distribution points.

Antara is now in an even better position to assure you of speedy delivery in bulk or drums regardless of your plant's location.

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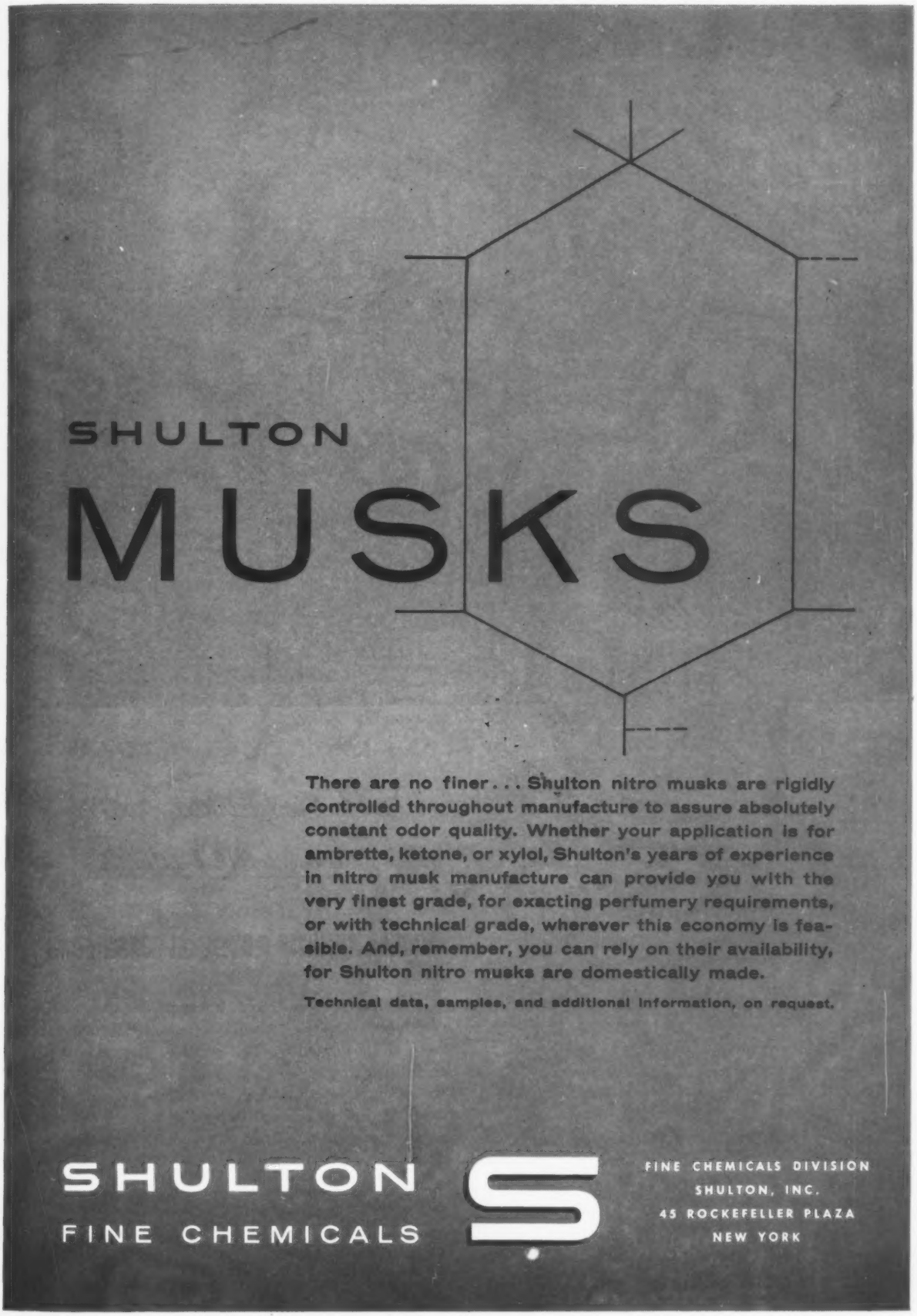
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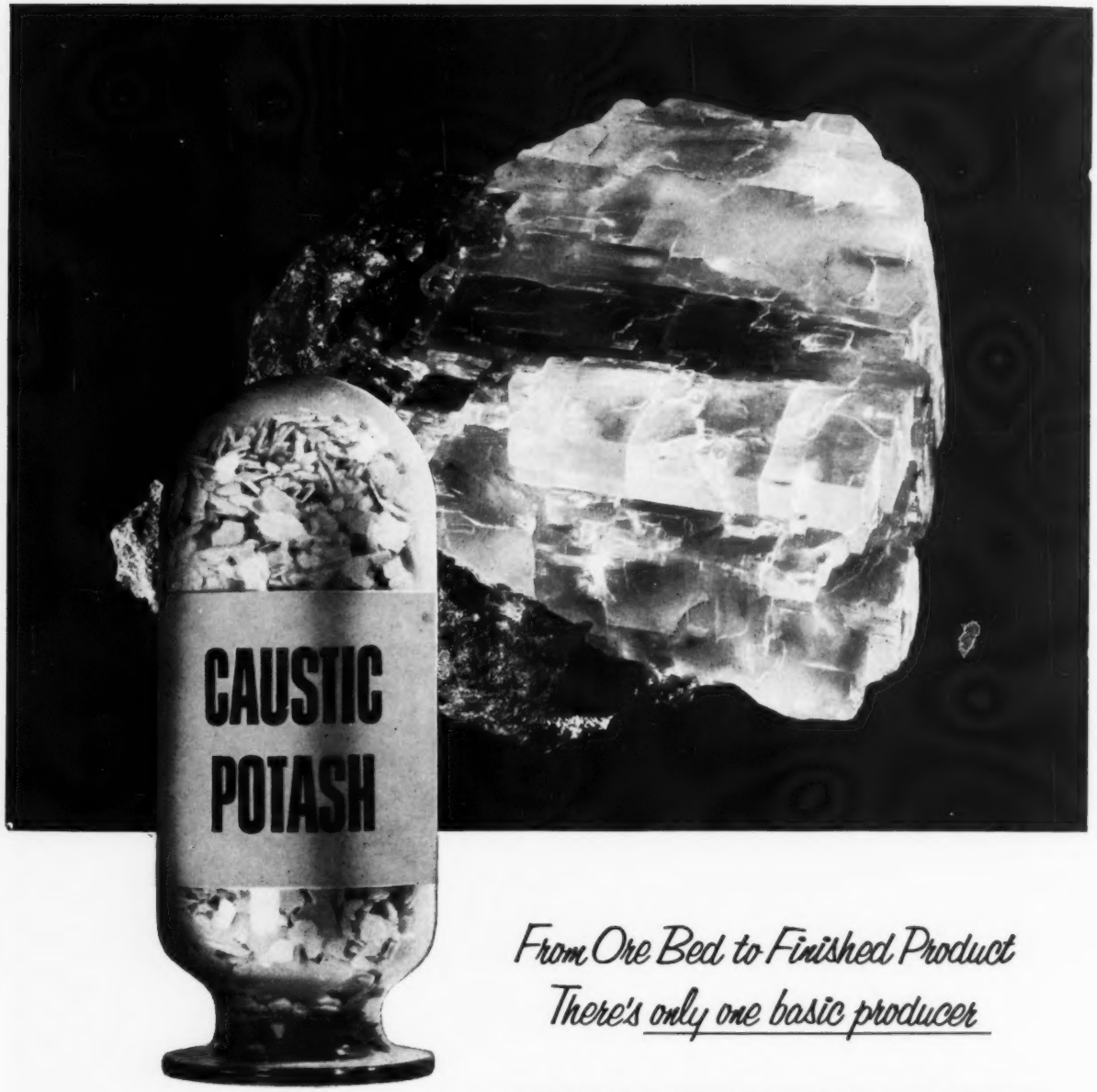

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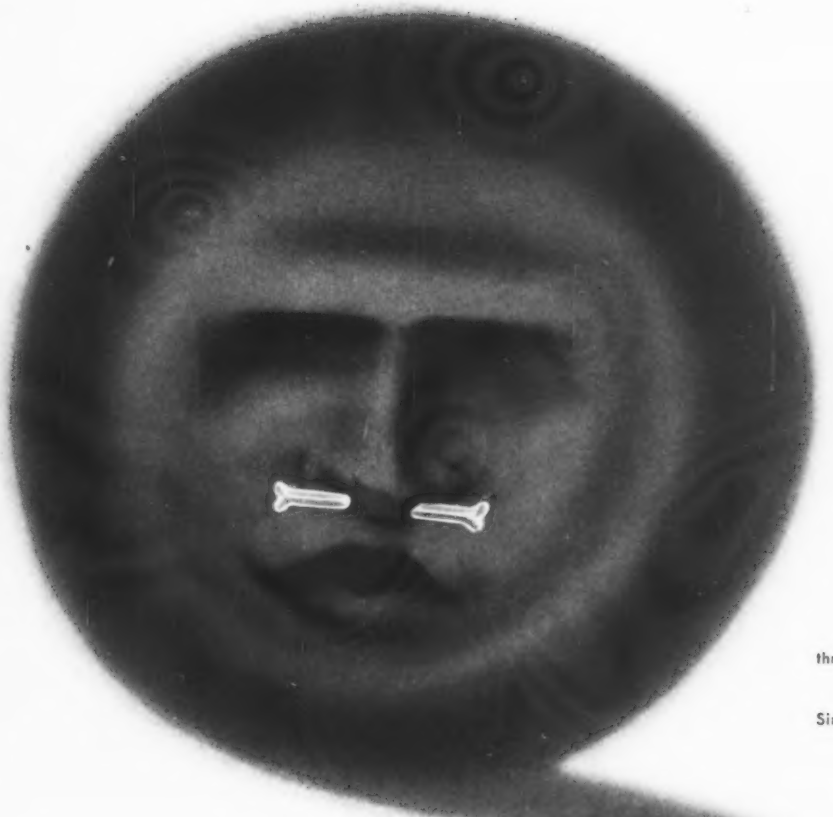

FANCY

POLYNESIAN'S NOSE

Strange adornments like bones thrust through the nostrils have a very special meaning to a Polynesian.

Since many primitive men believe the nose is the gateway by which the soul can leave the body, or demons can enter, they blockade the nose with these safeguards.

THE NOSE – FANCY AND FACT

FACT

PFW'S NOSE

Demons or no demons, we'd be willing to wager a sou or two that the aforementioned gentlemen would quickly remove the "blockades" if they even got a whiff of one of PFW's modern fragrance specialties . . . "nose openers" if there ever were any.

Would you like a little whiff yourself? You might find it very useful to your business. Glad to oblige.

PFW

for odor and taste

POLAK'S FRUTAL WORKS INC., MIDDLETOWN, N. Y.

AMERSFOORT, HOLLAND • PARIS, FRANCE • BREMEN, GERMANY • BRUSSELS, BELGIUM • SOFLOR LTD. - PERIVALE, ENGLAND

Super Dense Bead

Nacconol® DBX

The *only* 40% active spray-dried alkyl aryl sulfonate that is as *dense as most flake materials.* Essentially dustless, free-flowing, non-caking! Makes better-looking, more uniform mixtures, *yet costs no more than flakes!*

to cut the cost of quality detergents...

Liquid

Nacconol SL

Outstanding! Looks clean and smells clean. Gives excellent foaming. Has very low haze-point. Emulsifies grease and oil. Compatible with anionic and non-ionic materials. Requires no dissolving, has low salt content, needs no extra stabilizer.

The best and most salable detergent products need not be the most costly to formulate. To prove it, just check the selling-*plus*-economy features of these two exceptional detergent bases.

NACCONOL, the pioneer detergent, is also available in twelve other forms . . . flake, bead, granular and powder . . . to fit every purpose.

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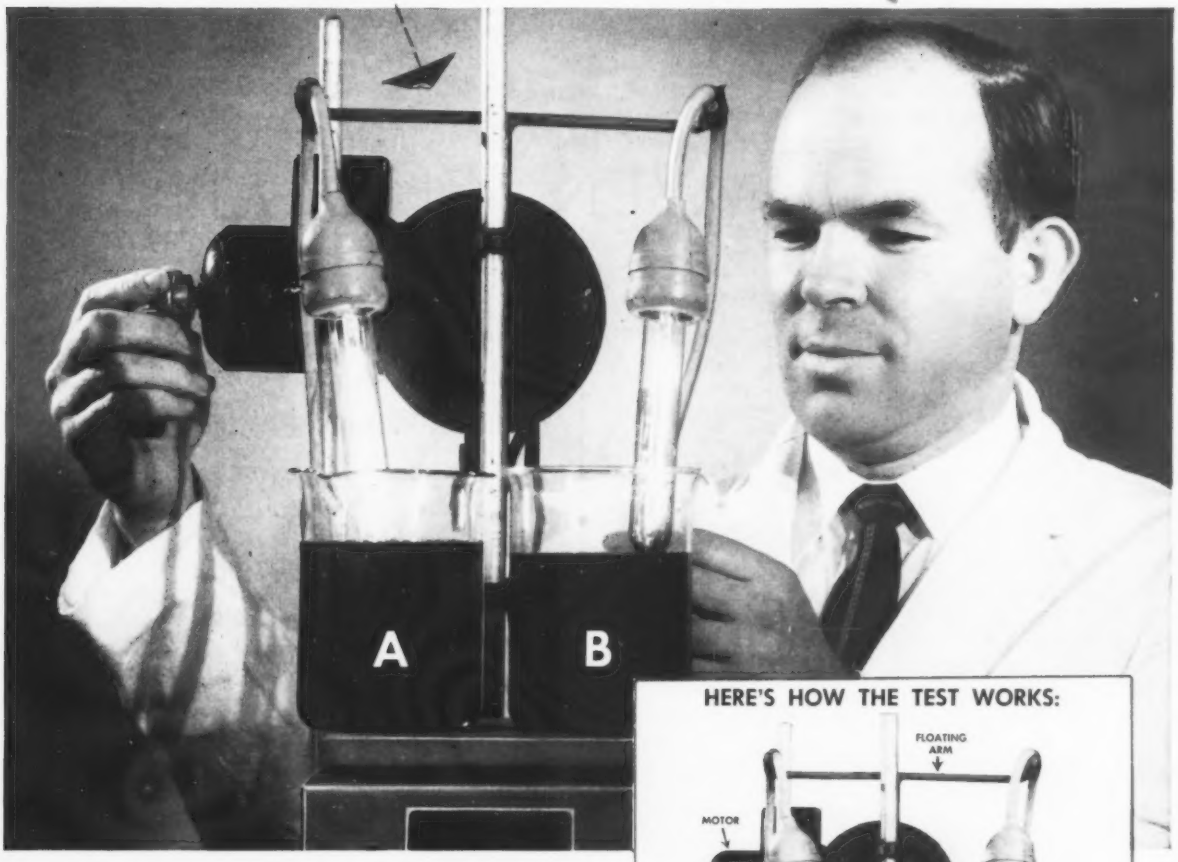
BEFORE YOU SWITCH TO A RED OIL SUBSTITUTE:

Make this simple test

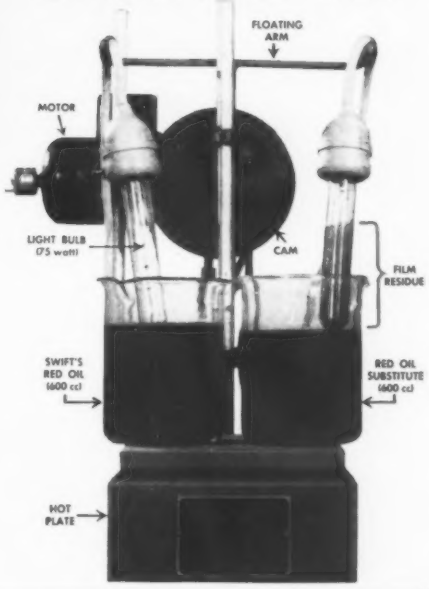


LIGHT BULB TEST
proves the superiority of Red Oil!

Some red oil substitutes contain a higher percentage of polyunsaturates than found in red oil. In the presence of heat these materials tend to solidify . . . to form a gum residue. This characteristic may be desirable *if* you want a *drying oil*. But, if you have purchased a red oil substitute for reasons of economy, for an application where oxidation or polymerization is an undesirable factor, your economy may well be a compromise with the quality of your product.

A simple test, as shown above and explained at right, will show, by sight, whether or not the product you are now using leaves a gum deposit in the presence of heat. Place *any* red oil substitute in beaker "B" *but reserve the other* . . . for SWIFT'S Red Oil. Write for a trial order today and remember . . .

HERE'S HOW THE TEST WORKS:



Apparatus is arranged to subject lighted bulbs to continuous immersion and withdrawal from beakers over a period of several days. Hot plate should be set to maintain temperature of oil at about 250° F. Results of test will be visible. Oil which contains polyunsaturates will be revealed by build-up of film on the surface of the light bulb.

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THAN A THOUSAND CLAIMS

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ORGANIC DIVISION: Fatty alcohol sulphates (EMPICOLS), emulsifiers (EMPILANS), self-emulsifying waxes (EMPIWAXES), alkyl aryl sulphonates (NANSAS) and other detergent bases, additives and emulsifiers in powder, paste and liquid forms.

INORGANIC DIVISION: phosphoric acid and complex phosphates.

CHELATION HIGHLIGHTS

VERSENE 100

Completely inactivates calcium and magnesium ions over wide pH range . . . is easily included in soaps and syndets

The tetrasodium salt of EDTA—most effective chelating agent commercially available

Calcium chelation value** (product specification)	100
Active ingredient	Na_4EDTA
Molecular wt. of active ingredient	380
Physical form	liquid
Bulk density, lb./gal.	10.9 (1.31†)
Freezing point, °F.	−27
pH	11.8 ± 0.5
% solids	48
Color	light straw
Water solubility Gms./100 Gms. at 25°C	∞

**Mg. $CaCO_3$ gm. product at pH 11 †specific gravity

To date, no other agent commercially available offers the chelating effect and versatility of the tetrasodium salt of EDTA*. Unlike other agents, the tetrasodium salt of EDTA does not lose complexing power in alkaline media or at high temperatures. Versene 67, Versene 100, Versene Powder and Versene Beads are Dow trademarks for the various liquid, powder and bead forms designed to satisfy specific processing conditions.

The concentrated liquid form, Versene® 100, is easily incorporated into practically every type and form of soap or detergent—flake, powder, bar, granulated and especially liquid formulations. It locks hardness and trace metals in solution within an inner-ring structure . . . keeps them completely inactive over a wide pH range.

Improves processing

Because Versene 100 holds calcium and magnesium ions in a claw-like grip, process as well as product improvements are realized. The absence of insoluble soaps simplifies filtration. Chilling is eliminated, too, since no calcium or magnesium soaps are present to precipitate under lowered temperatures. In liquid soaps, Versene 100 provides a clarity with tap water that before was only possible with distilled or rain water! Such soaps are lighter colored, protected against rancidity and color change. Silica deposit is retarded when stored in glass containers. In addition, finished liquid soap with Versene 100 won't clog dispensing equipment.

Amounts required

Versene 100 and metal ions combine in a 1:1 molar ratio. The following table makes use of this fact to present the quantities required to inactivate various metal ions. Since the effects of competing ions vary in each industrial situation, the amounts shown are approximate. However, these tabulated figures can be successfully used as "rules of thumb" in solving metal ion problems.

Effective pH range	Parts of Versene 100 required . . .	. . . to chelate one part of metallic ion
Below 7	17.9	Fe^{+3}
—	17.9	Fe^{+2}
Up to 12.5	15.8	Cu^{+2}
Up to 13.7	17.0	Ni^{+2}
Up to 12.1	4.8	Pb^{+2}
Up to 12.9	15.3	Zn^{+2}
Up to 13.4	17.0	Co^{+2}
—	37.1	Al^{+3}
Up to 12.4	18.2	Mn^{+2}
Above 6.0	25.0	Ca^{+2}
Up to 11.9	41.1	Mg^{+2}
Above 6.0	7.3	Ba^{+2}

Improves product effect

The big advantage in soaps is that Versene 100 prevents the precipitation of hard-water soap scum. In syndets, it prevents detergency loss that results from calcium and magnesium salt formation. Synthetic detergents may also form precipitates through reaction with iron and other divalent metallic salts. For this, specialty chelating agents—Versenol® and Versene Fe-3 Specific®—are available.

Part of a series

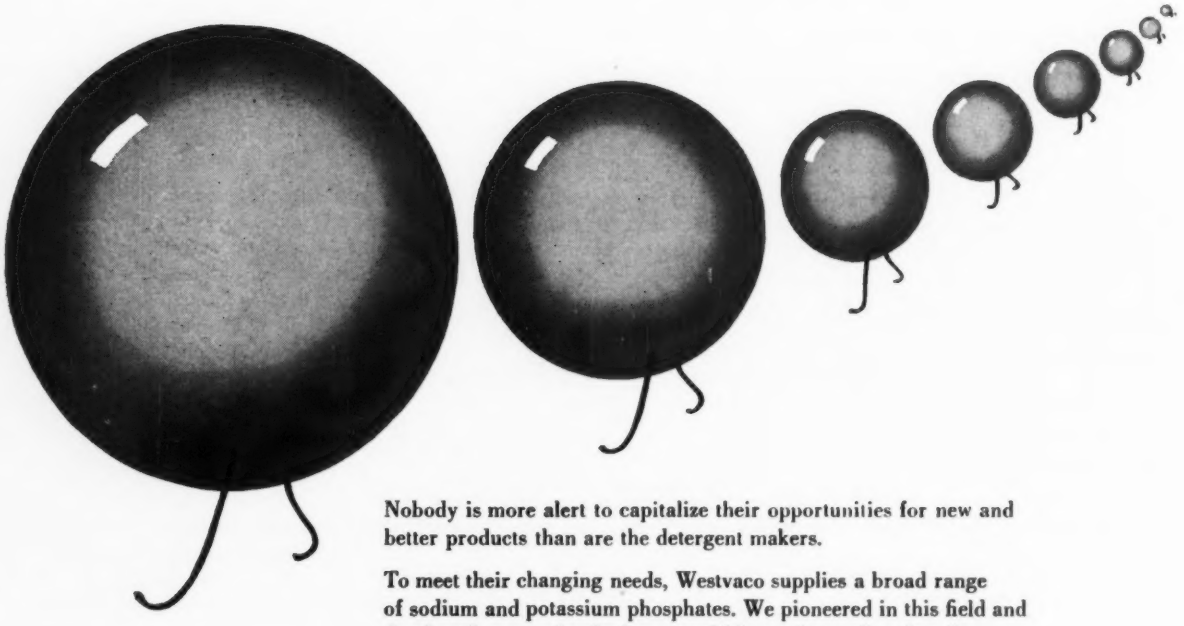
Solubilizes proteins . . . saponifies fats and oils . . . prevents curds and film . . . provides synergistic action with quaternaries—these plus other advantages of Versene 100 are giving detergent formulators a competitive edge in numerous markets, under all water-hardness conditions. We want to emphasize, however, that Versene 100 is but one product of the Versene series. For within these chelating agents lies the answer to practically every metal-ion problem . . . in processing and product end-use . . . throughout the pH range. Write us for a sample and technical data on Versene 100 or any member of the series. Or contact your nearest Dow sales office. Also available is a 16-page brochure describing the chemistry of chelation, Dow chelating agents and their uses. Ask for "Keys to Chelation". THE DOW CHEMICAL COMPANY, Midland, Michigan, Organic Chemical Sales, Dept. CA 1306A.

*ethylenediaminetetraacetic acid

YOU CAN DEPEND ON DOW

Westvaco® PHOSPHATES

stay in step with the fast-moving detergent industry!



Nobody is more alert to capitalize their opportunities for new and better products than are the detergent makers.

To meet their changing needs, Westvaco supplies a broad range of sodium and potassium phosphates. We pioneered in this field and developed many of today's most widely-used complex phosphates.

With production at Carteret, New Jersey, Lawrence, Kansas and Newark, California, we can probably save you money on combination C/L or L/C/L shipments. Ask the nearest Westvaco office to quote delivered cost of your complete needs for the phosphates listed.

POTASSIUM PHOSPHATES

Dipotassium Phosphate • Monopotassium Phosphate • Potassium Tripolyphosphate
Tetrapotassium Pyrophosphate • Tripotassium Phosphate

SODIUM PHOSPHATES

Disodium Phosphate • Hexaphos® and Fosfodril® • Monosodium Phosphate
Sodium Tripolyphosphate • Tetrasodium Pyrophosphate • Trisodium Phosphate
Sodium Acid Pyrophosphate • Tetrasodium Pyrophosphate Crystals
Trisodium Phosphate Hemihydrate • Trisodium Phosphate Monohydrate

fmc®

Westvaco Mineral Products Division

FOOD MACHINERY AND CHEMICAL CORPORATION

chemicals

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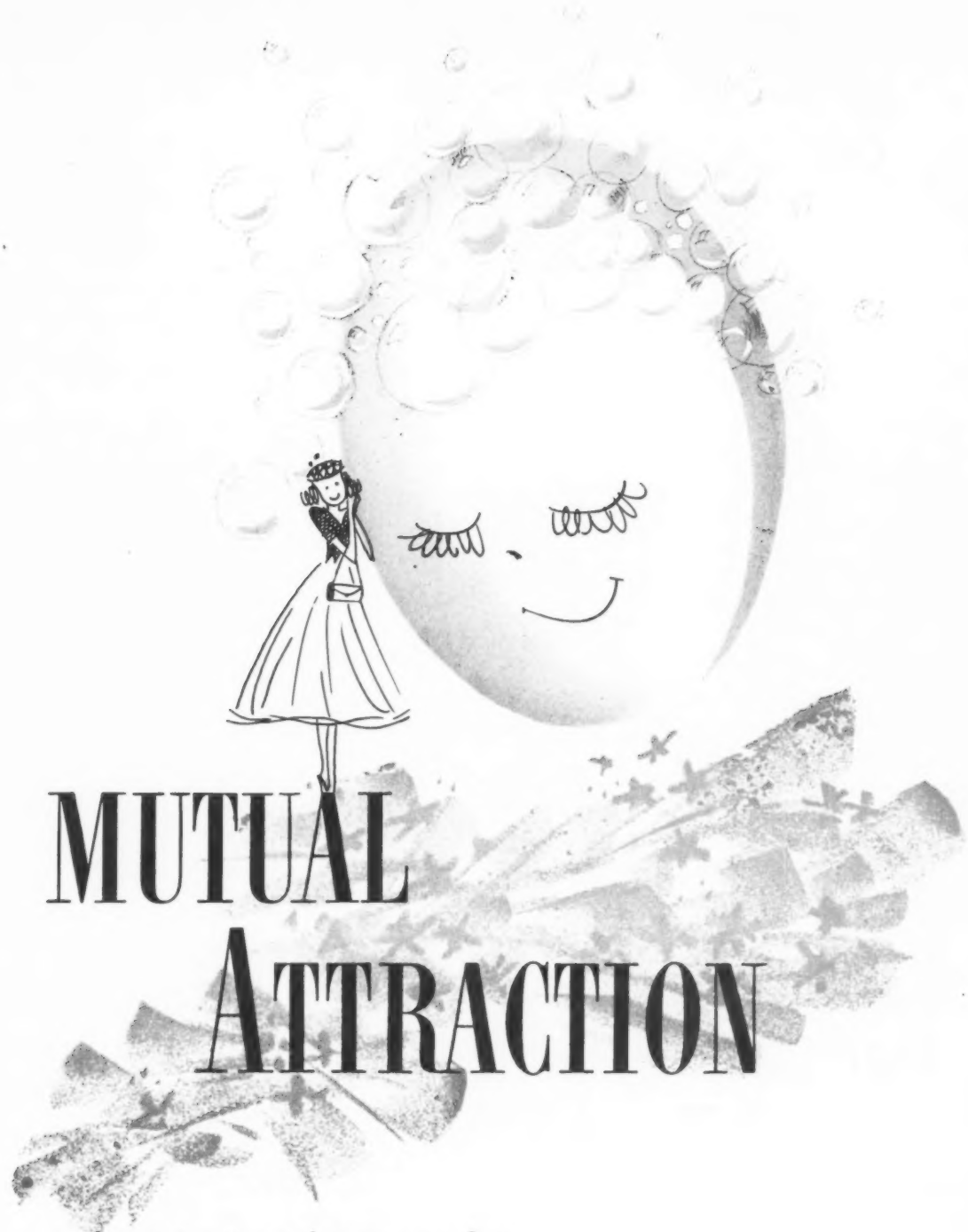
BECCO® peroxygen chemicals • FAIRFIELD® pesticide compounds • FMC® organic chemicals • NIAGARA® insecticides, fungicides and industrial sulphur • OHIO-APEX® plasticizers and resins • WESTVACO® alkalis, solvents, phosphates, barium and magnesium chemicals



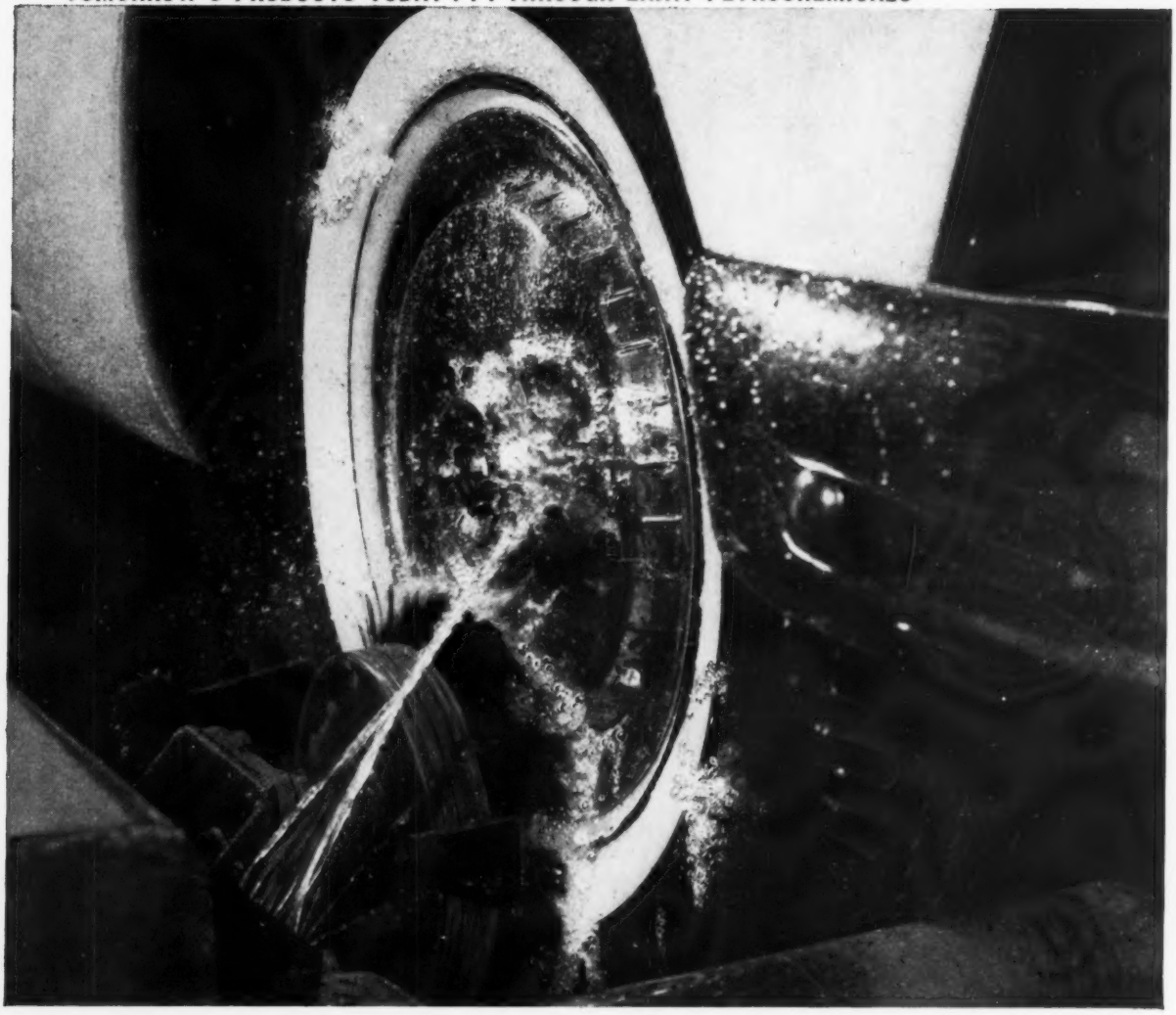
MUTUAL ATTRACTION

Soap perfumes by

VAN AMERINGEN-HAEBLER, INC.

521 WEST 57th STREET ● NEW YORK, 19, N. Y.

TOMORROW'S PRODUCTS TODAY . . . THROUGH ENJAY PETROCHEMICALS



Basic raw materials for DETERGENTS that make all cleaning faster . . . easier!

From tough-to-clean whitewall tires to everyday dishwashing, today's new detergents are getting things cleaner than ever before . . . and with half the work.

As a detergents manufacturer, you should investigate Enjay Tridecyl alcohol, Tripropylene and Tetrapropylene—high-quality petrochemicals that can make an important contribution in *your* process. These, and other Enjay petrochemicals, have key roles in the manufacture of many of today's outstanding new products.

With recently expanded laboratory facilities, Enjay's staff of highly trained technicians is ready to help *you* find new ways to new products through Enjay Petrochemicals. For further information, contact the Enjay Company.

Enjay offers a widely diversified line of petrochemicals for industry:
ALCOHOLS & SOLVENTS: Lower Alcohols, Oxo Alcohols, Ketones and Solvents; OIL & FUEL IMPROVERS: Detergent-Inhibitors, V-I Improvers, Oxidation Inhibitors; CHEMICAL RAW MATERIALS: Olefins, Diolefins, Aromatics; ENJAY BUTYL RUBBER & VISTANEX.

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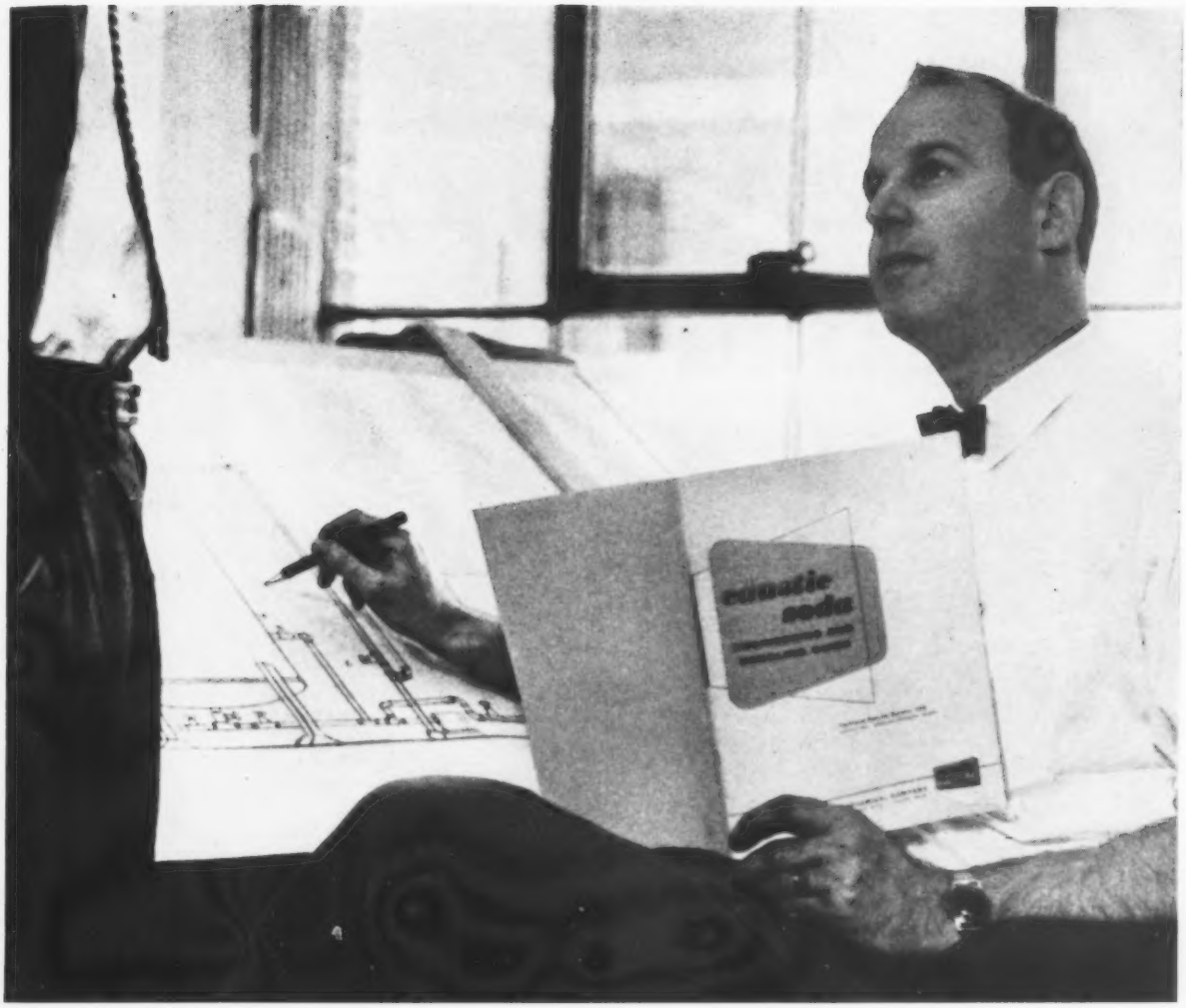

NEW HOOKER MANUAL helps you store and handle caustic soda safely

This new manual gives you 40 pages of information and advice on how to handle and store liquid caustic soda safely, efficiently, and with minimum risk of contamination.

Here are some of the contents:

- ✓ Large, detailed diagrams of equipment to use in unloading, diluting and storing.
- ✓ Commonly used methods for unloading a tank car of liquid caustic soda, for diluting to different strengths, and for storing.
- ✓ A section on safety precautions and first aid.
- ✓ A section on materials of construction.
- ✓ 18 charts, graphs and tables to help you predict and control the behavior of liquid caustic under a wide range of operating conditions. These cover such properties as dilution temperature, vapor pressure, viscosity, specific heat, etc.

For your copy of this new manual, write us today or use the coupon.

HOOKER CHEMICALS PLASTICS

HOOKER ELECTROCHEMICAL COMPANY

Niagara Falls · Tacoma · Montague, Mich. · New York · Chicago · Los Angeles

865W10

HOOKER ELECTROCHEMICAL COMPANY
ct, Niagara Falls, N. Y.

Please send me a copy of Bulletin 102, *Caustic Soda Engineering and Handling Guide.*

NAME.....

TITLE.....

COMPANY.....

STREET.....

CITY.....STATE.....

LOW-FOAMING TRITON CF-10 in alkaline formulation prevented spotting and streaking when this glass was washed and rinsed in a dishwasher.

COMPETITIVE DETERGENT in a similar formulation caused unsightly spotting when the glass above was washed and rinsed in the same dishwasher.

End Spotting and Streaking with TRITON CF-10

The ability of TRITON CF-10 to provide high detergency *and* clean rinsing is demonstrated convincingly in the above photograph. Both glasses are specimens of glassware used in our laboratories for detergency experiments. Both specimens were washed and rinsed the same way, but only the one washed with the formulation containing TRITON CF-10 dried spotlessly clean.

TRITON CF-10 reduces surface tension to such a degree that it promotes thorough rinsing. It also prevents excessive foam formation, even during prolonged violent agitation.

Write today for complete data on TRITON CF-10 and its application in low foaming detergents that wash and rinse clean.

TRITON is a trademark, Reg. U.S. Pat. Off. and in principal foreign countries.

Chemicals for Industry

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

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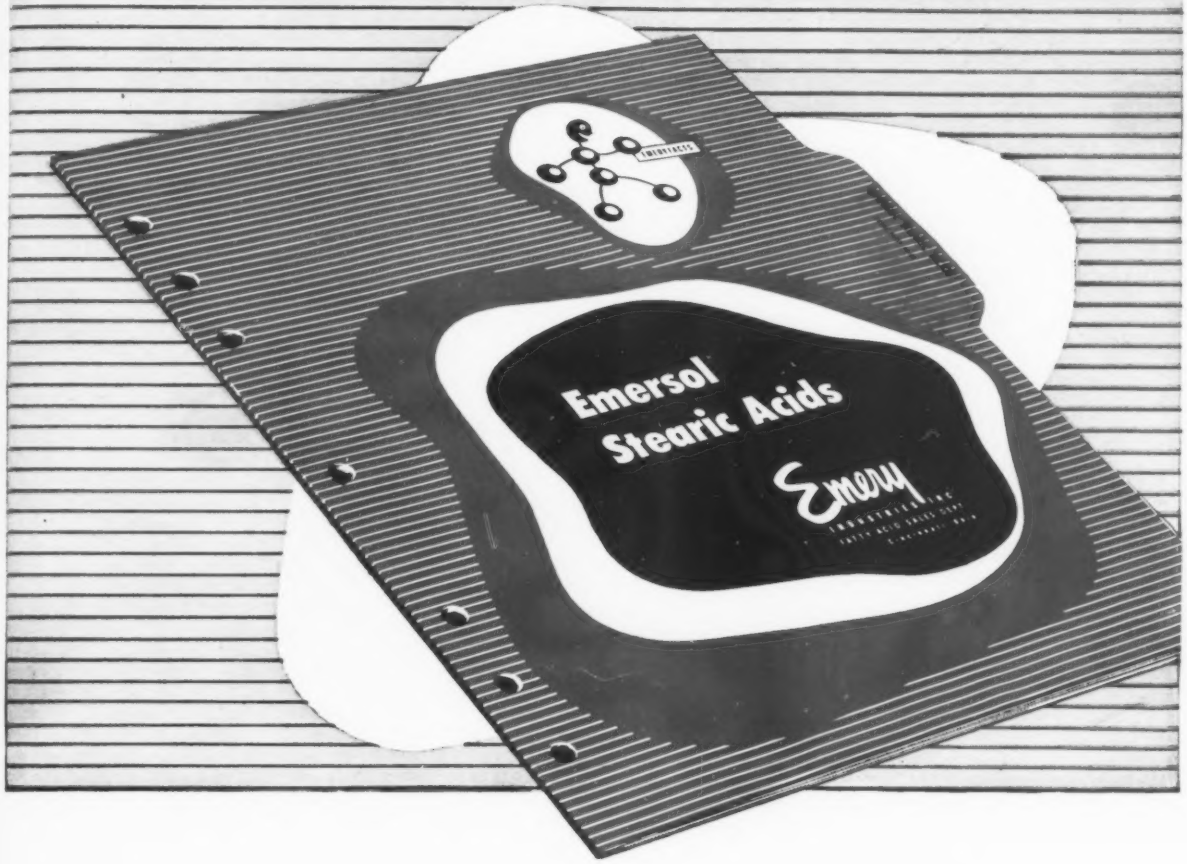
NOW...to help you select and use Stearic Acids



The most comprehensive booklet on stearic acid yet published is now available for your use. This 24-page booklet, titled "Emersol Stearic Acids", is designed to help you in evaluating stearic acids and in selecting the best grade for your specific use by interpreting various test results in terms of end-product performance. Included also are brief discussions of Emersol Stearic Acids, tables of physical properties, and such charts as specific gravity, viscosity, etc.

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Please send me the Emeryfacts section titled "Emersol Stearic Acids."

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"In Low-foaming Detergents, Too"

THE KEY IS CMC

Stanzal, the low-foaming detergent for automatic washers, includes CMC in the formulation to produce what the manufacturer terms "just right suds" for complete washing and easy rinsing. The unique dirt-suspending properties of Hercules CMC are utilized in Stanzal to float-away dirt particles loosened by this controlled suds detergent. When CMC is included, dirt is always washed down the drain; never redeposited on clothes.

More and more manufacturers of both commercial and home laundry products are using economical Hercules CMC to increase customer satisfaction. Perhaps CMC can improve your product. Write to Hercules for complete technical information and a testing sample.

Virginia Cellulose Department

HERCULES POWDER COMPANY

INCORPORATED

900 Market Street, Wilmington 99, Delaware

V357-2

STANZAL is conveniently packaged in ten and twenty-five pound boxes (with moisture-guard polyethylene inner liner) and twenty-five pound pails. New polyethylene inner liner protects contents from moisture and prevents spilling. Product of Stanson Chemical Co., Edgewater, New Jersey.

. . . in brief

DISPARAGING. . . . For scaring beauty-conscious young girls half to death with their television commercials, a shampoo manufacturer has been cited by the Federal Trade Commission. The commercial warns against the use of detergent shampoos stating that they burn the hair and leave it dry, brittle, dead looking and hard to manage. The FTC says that detergent shampoos do not burn the hair and that the commercial sequence is false and misleading. FTC further alleges that the advertising disparages competitive shampoos.

All of which handed us quite a chuckle. For years, the detergent shampoos have been giving soap shampoos,—and we assume that the shampoo advertised by the cited firm is a soap product,—hell up Sixth Street. They have warned America's women against the dulling and deadening effects of soap shampoos, warned them about soap scum and the drying of their curly locks. The advertising disparaged poor old soap like nobody's business. But the FTC must have been looking out the window at the time.

This whole farce only emphasizes to us how ridiculous is this advertising which tries to sell one product by disparaging another. We suggested that manufacturers rein in their agencies on this score a long time ago. Now somebody's got their nose caught in the FTC wringer.

* * * * *

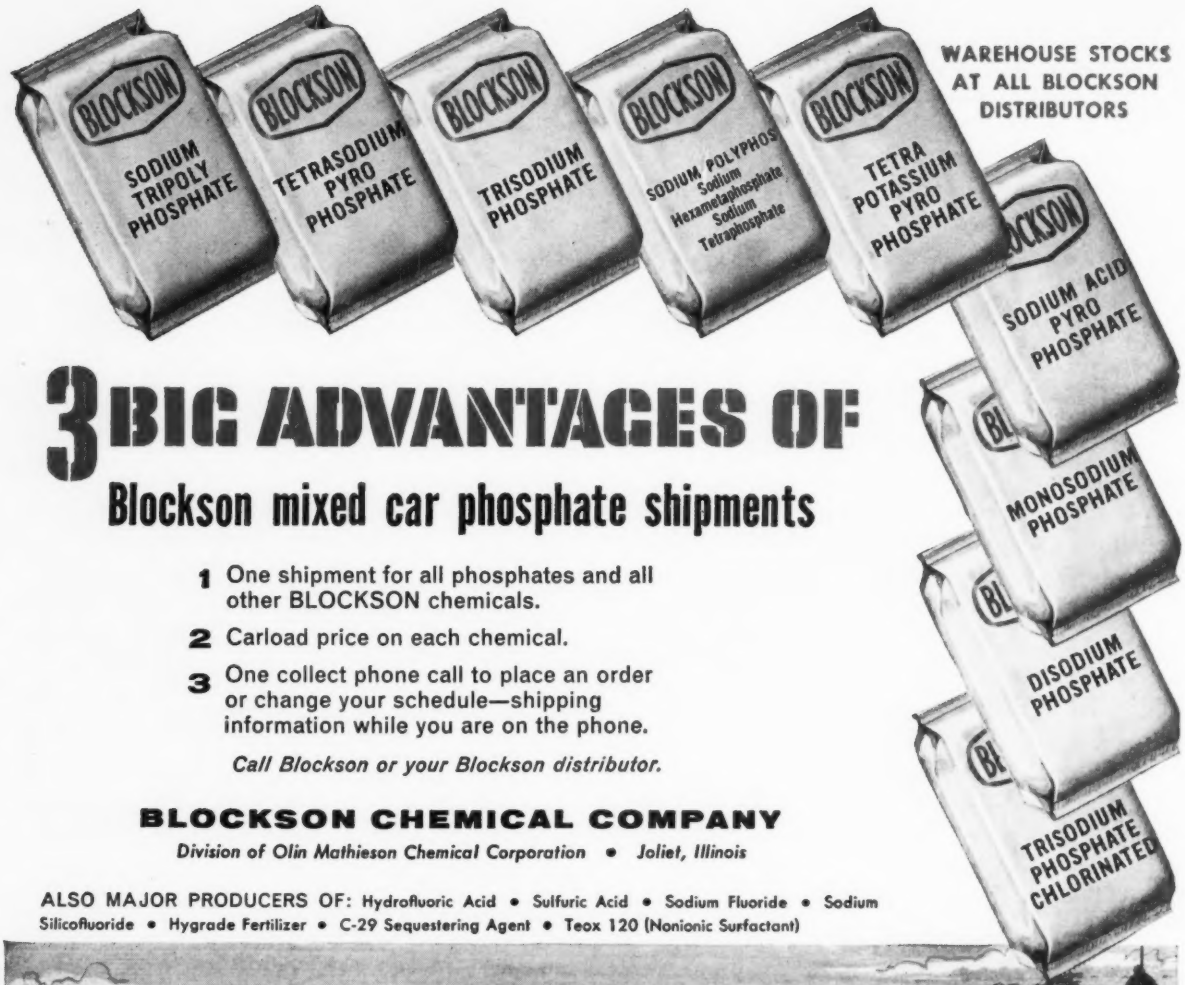
COMPLICATIONS. . . . Recently we talked with an important manufacturer of private brand chemical specialties about the growing complications in state regulations covering the registration and labeling of insecticides, disinfectants and the like. He pointed out that his company had had to establish a separate department just to handle the registrations of his company's private brand customers. They find the innumerable details of registration, not to mention the matter of fees, become steadily more burdensome. And when a law or regulation is changed or a product formula is revamped, they bring almost unbelievable complications.

Only two or three states do not have local laws covering insecticides, disinfectants and other chemical specialties. This means that there are at least 45 state laws that a manufacturer selling nationally must conform to. Where products must meet the requirements of several states whose regulations differ, it is obvious how the complications mount. Add to this the fact that a private brand manufacturer may have a number of customers with any number of brands selling in any number of states and it's no wonder the whole thing has become one gigantic headache.

If the states of the union had got together and deliberately worked out a plan of harassment for chemical specialty manufacturers, they probably could not have done a better job than the way things stand today.

* * * * *

FEAR COMPLEX. . . . The demand for explicit poison and antidote labeling "of almost everything that comes into the home" stems from a fear complex which has been engendered by the activities of the American Medical Association. Proposed laws are based on thinking that almost every chemical product contains some ingredient which might make somebody sick. The doctors fondly hope that poison laws and labels will frighten people into a fear of most ordinary household chemicals. These in effect were in part the remarks of S. L. Mayham, executive vice-president of the Toilet Goods



WAREHOUSE STOCKS AT ALL BLOCKSON DISTRIBUTORS

3 BIG ADVANTAGES OF Blockson mixed car phosphate shipments

1. One shipment for all phosphates and all other BLOCKSON chemicals.
2. Carload price on each chemical.
3. One collect phone call to place an order or change your schedule—shipping information while you are on the phone.

Call Blockson or your Blockson distributor.

BLOCKSON CHEMICAL COMPANY

Division of Olin Mathieson Chemical Corporation • Joliet, Illinois

ALSO MAJOR PRODUCERS OF: Hydrofluoric Acid • Sulfuric Acid • Sodium Fluoride • Sodium Silicofluoride • Hygrade Fertilizer • C-29 Sequestering Agent • Teox 120 (Nonionic Surfactant)

BLOCKSON

Association in a recent address before the California Cosmetic Association.

The speaker went on to state that any protective effect would be completely lost by willy-nilly labeling practically everything of a chemical nature which comes into the home with a "poison" label. He pointed out the weakness of a too often repeated warning, of one carried on too many packages. Again it is the old story of crying "wolf." He chided the doctors for unduly arousing fear of any chemical used in the home.

To some extent, we agree with Mr. Mayham. We feel that AMA has overplayed its hand, principally in the interest of publicity received. We agree that too widespread use of "poison" labels will defeat its own purpose. Obviously, the line should be drawn between really dangerous items and those which are relatively harmless. As for instilling a fear complex in mothers for the protection of children, we believe that such publicity, properly conducted, can be of value. A little fear may make more mothers more careful.

* * * * *

PACKAGE COSTS. . . . That the relative cost of package compared with the cost of contents has skyrocketed during the past decade, there is little doubt. Complaints from manufacturers who have been loath to adopt new and more expensive packages, but have been forced to do so by competition, have been fairly numerous. Some of them take the attitude that the tail is wagging the dog especially if the package happens to cost more than the contents which can be a not uncommon situation in a chemical specialty, cosmetic or drug product.

To us, the whole matter boils down to the question of whether the ultimate consumer is willing to pay for improved packaging, in some instances even very fancy packaging. Off hand, it seems obvious that the consumer *is* willing to pay and particularly today with flush employment and high wages. Better packaging has invariably been followed by increased sales even though it may mean higher price for the product. And marketwise, a product in a better package is bound to be in a stronger position competitively.

So when a manufacturer looks over his packaging costs and gets something of a shock, we suggest that he also take a look at his sales figures at the same time. If they do not reflect higher package costs, then we have a hunch something is rotten in Denmark. The world's top marketers are spending ever more and more money on packaging. They can't all be nuts. There must be a good reason. It's a little matter for those who complain of packaging costs to think about.

* * * * *

NO EXCUSE. . . . Recently during an unusual hot spell, an aerosol blew up in a drug store window. The window display was exposed to direct sunlight on one of our hottest July days. The temperature probably went to 140 F or higher. Although no great damage was done, the "explosion" caused considerable of a furore in the immediate neighborhood even coming to the attention of the chief of the fire department. The resultant publicity was not good.

No reasonable excuse exists why a thing of this kind should happen. To our way of thinking, it was a plain combination of stupidity and carelessness. First of all, if aerosols are going to be used for displays in store windows exposed to direct sunlight, then empty dummy cans or bottles should be supplied for the purpose by the manufacturer. Furthermore, the manufacturer should put a sticker on every case warning against this very use of filled containers along with the warning not to store next to furnaces or other sources of heat.

As for the pharmacist who would permit a filled aerosol to be used under these conditions, we feel that the mantle of stupidity fits perfectly. Even though he did not read the label on the product, which undoubtedly warned against excessive heat, how could he run a drug store and still be so ignorant of aerosols? Actually, both the manufacturer and the retailer were at fault. No legitimate excuse exists for such a thing to happen.

To make a good shampoo...

You need CARBIDE'S Ethanolamines

Good detergent action, mild alkalinity, and bland skin action—are three reasons why soaps based on mono-, di- or triethanolamine are used to make fast selling hair shampoos. For example, a good shampoo is made from a coconut oil soap of triethanolamine which combines excellent detergent, lathering, and rinsing properties. Suggested formulations for shampoo concentrates made with triethanolamine or mono- and triethanolamine soaps are given in "Emulsions and Detergents". In fact, this 92 page booklet contains a section on all types of detergents.

"Emulsions and Detergents" also provides valuable technical information and suggested formulations for solvent emulsions, "soluble" oils, wax emulsions, and oil and wax polishes. You'll want this booklet for everyday reference. To receive a copy fill in this coupon and send in today.

In Canada: Carbide Chemicals Company, Division of Union Carbide Canada Limited, Montreal.

Union Carbide Chemicals Company, Room 328, 30 East 42nd Street, New York 17, N. Y.

SEND ME A COPY OF THE 92 PAGE BOOKLET—"Emulsions and Detergents"

Name .....

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"Union Carbide" is a registered trade-mark of Union Carbide Corporation.

UNION CARBIDE

CHEMICALS

Union Carbide Chemicals Company
Division of Union Carbide Corporation
30 East 42nd Street, New York 17, N. Y.

as the reader sees it . . .

Pace Status Clarified

Editor:

Your July issue carried a news item to the effect that Clint Pace, formerly executive assistant to the president of the *Houston Post,* has joined Procter & Gamble Co., Cincinnati, as assistant to the president.

Mr. Pace has indeed come with Procter & Gamble but as a member of the public relations department with the title director of community service. In this capacity he will serve our president and other top executives, in the many national and civic activities of a public service nature which they may undertake. He will not be an assistant to the president except in this sense, and will not work with Mr. McElroy on matters pertaining to the operations of the business.

In the interests of accuracy and to avoid confusion in future contacts with Procter & Gamble, we should appreciate your publishing this letter if you see fit to do so.

O. M. Gale, Manager
Public Relations Dept.
Procter & Gamble Co.
Cincinnati 1, O.

★

Glycerine Protest

Editor:

My attention has been called to the reference to "Glycerine Replacements" in the article on "Soap Additives" in the Production Section of the May issues of *Soap & Chemical Specialties.* This item includes the following statement: "A 67 per cent solution of sorbitol can very well take the place of glycerine in soap. Less hygroscopic than glycerine it does not remove moisture from the skin. . . ."

As I believe your many articles in the past have indicated, glycerine remaining in soap is at a concentration which has an emollient effect and certainly would not remove moisture from the skin. Work by Dr. Blank and others suggests, indeed, that it acts to soften the skin by aiding in the retention of moisture.

Because I have always considered your publication such a booster for glycerine and its many applications, I am surprised that this erroneous implication of benefit by substitution got by you.

E. Scott Patttison, Manager,
Glycerine Producers' Association,
New York

The sentence referred to by Mr. Pattison is taken from a paragraph in an article on the subject of soap additives. The article which appeared in May Soap is a translated abstract of one appearing in the German publication, Seifen-Oele-Fette-Wachse (Soaps, Oils, Fats and Waxes). Actually, the section referred to by Mr. Pattison was considerably toned down in our translation. We sent Mr. Pattison a literal translation of the original article following receipt of his letter. In a second letter he agreed that we "did considerable 'toning down'." He also pointed out in his second letter that he does "not believe that the fact that this author took an extreme position necessarily makes his information of any validity." Quite true. Hooray for good old glycerine say we. Ed.

★

New Cleaner

Editor:

We have developed a new cleaner. (See photograph below) This is the final answer to problems encountered over 38 years. Before the war and immediately afterwards, we had a pH problem. Should it be low or should it be high? If we made it high, it wasn't neutral and if we made it low it wouldn't clean. Also, everyone wanted to know how much anhydrous material it contained, etc. Then came the advent of detergents and we started all over with solids, anionics, cationics, and nonionics—so the sample is our answer.

One of your earlier issues this year gave me the idea. So we just had a little brain storming for about 15 minutes and developed the idea to its fullest extent.

Hope you like our product. I am sure it will help you also to find an answer at last to this age old problem.

Lawrence W. Peck
Peck's Products Co.
St. Louis

—★—

Late, but—

Although we subscribe to Soap & Chemical Specialties, we have only just noted (July 25th) a very interesting article: your report on page 137 of the January, 1957 issue on the 24th meeting of the Scientific Section of the Toilet Goods Association.

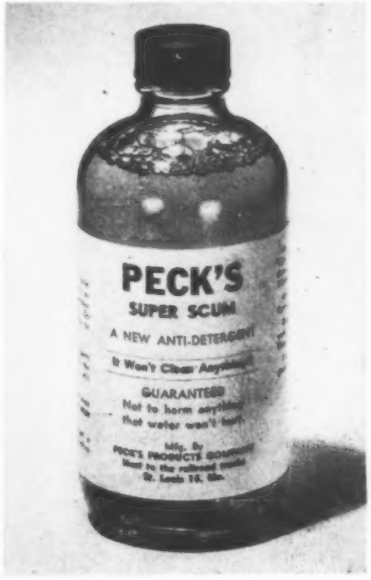
As specialists in the preparation of dermatological products, we are particularly interested in the paper presented by Dr. R. A. Osbourn on "Dermatological Evaluation of Perfumes of Low Sensitizing Index."

We would write directly to the Toilet Goods Association, but we are unable to obtain their address in Australia. We would be very grateful, therefore, if you could obtain a copy of this report and forward it to us.

G. F. Oppenheim,
Ego Laboratories,
Victoria, Australia

We will be glad to obtain a copy of the Proceedings of TGA's Scientific Section—on the condition that Mr. Oppenheim not get so far behind in his reading of SOAP. Ed.

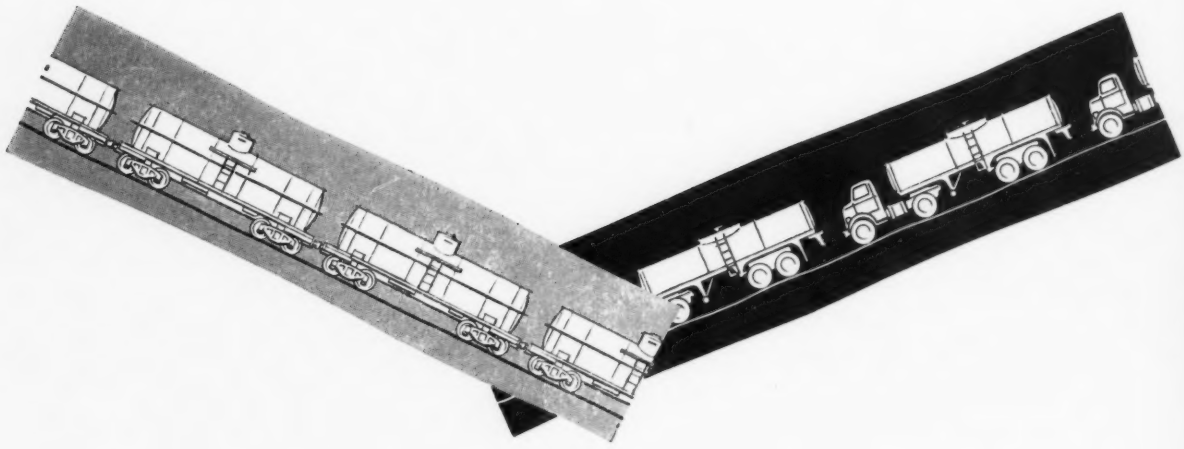
Strictly a hot weather idea is "Peck's Super Scum", a new anti-detergent that "won't clean anything". "Super Scum" is guaranteed "not to hurt anything water won't hurt."



New bulk delivery of Ethoxylated Alkyl Phenol

(ARMOUR'S ENERGETIC W-100)

saves you money!



Armour's wetting agent for textile and industrial use, Energetic W-100 (Ethoxylated Alkyl Phenol), is now available east of the Rockies in tank car and tank truck quantities. A minimum order of 4,000 gallons is required for tank car deliveries. Tank trucks deliver either 1,000 or 3,000 gallon orders.

Whether you order by tank truck, tank car or in drum quantities, you are always assured prompt, dependable deliveries from Armour.

Armour's ethoxylated alkyl phenol (Energetic W-100) is 100% active, nonionic, water white, odorless. Hundreds of users have proved that Energetic W-100 will give you:

- Instantaneous wetting action
- Good detergency
- Excellent emulsifying action
- Stability with all acids and alkalies
- High soil removal
- High soil suspension
- Excellent dispersing action
- Effective leveling and retarding action

ARMOUR SOAP DIVISION

INDUSTRIAL SOAP DEPARTMENT • 1355 WEST 31st STREET • CHICAGO 9, ILLINOIS

Detergents . . . Cleansers . . . Soaps . . .

Aerosols
Detergents
Dishwashing compounds
Floor scrubs
Glycerine
Hand cleaners
Laundry soaps
Liquid soaps
Metal cleaners
Potash soaps
Scouring cleansers
Shampoos
Shave products
Soap powders
Starch
Steam cleaners
Medicinal soaps
Textile detergents
Toiletries
Toilet soaps
and other detergent and soap products

Detergent marketers watch Lever's heavy duty liquid detergent, "Wisk," for clues as to what future holds for this latest development in a fast changing field. For present status of heavy duty liquids see article beginning on page 43.

You'd have to go a long way to find these properties

...so specify

NOPCO HYONICS

HYONIC PE 250

(100% active nonionic alkyl aryl polyether alcohol)

Gives high, persistent foam

Effective over wide range of water hardness and pH

Excellent wetting agent and emulsifier

Extremely stable in presence of acids, alkalis, inorganic salts including heavy metal salts

A powerful detergent

Suggested uses—dairy detergents and milkstone remover, car wash, antiseptic sanitizer, paint and woodwork cleaner

HYONIC FS

(100% active lauric acid alkylolamide condensate)

Superior foam stabilizer for anionics

Remarkable thickening action over a wide range of concentrations

Non-corrosive—can be stored indefinitely

Excellent detergent and wetter and shows remarkable synergism when blended with anionics or nonionics

Suggested uses—liquid dishwasher, clear liquid shampoo, bubble bath

No, it isn't necessary to explore the universe for your detergent aids since Nopco Hyonics will undoubtedly provide just exactly the properties you need and Nopco technical men will work right with you to help you produce detergents of your own specifications.

Write today for complete data on Nopco Hyonics.
Nopco Chemical Company, Harrison, N J

NOPCO

PLANTS: Harrison, N. J.
Cedartown, Ga. • Richmond, Calif.
London, Ont. Canada

Detergent marketers, such as Lever Brothers Co., whose heavy duty liquid detergent 'Wisk' goes national shortly, are gambling on the housewife's preference for a product that is conveniently packaged, is not messy to use and performs as well as powders.

Heavy Duty Liquid Detergents

By John W. McCutcheon

SINCE their introduction a little over a year ago heavy duty liquid detergents have been exciting considerable interest and speculation among soap and detergent marketers. This interest goes back to the time (mid-January, 1956) when Lever Brothers Co. jumped into the detergent marketing derby with its spanking new product, "Wisk". Launched in a mid-west test market, "Wisk" had the field pretty much to itself. The product is now well on its way to national distribution. Accompanied, of course, by full scale advertising and promotion.

Being somewhat partial to liquid detergents, as a result of its success with "Liquid Lux", one of the first light duty liquid detergents packaged in a can, Lever followed up its introduction of "Wisk" a few months later with a product called "Hum". A low sudser, "Hum" is to "Wisk" what newly acquired "All" is to "Surf" in Lever's not notably successful line of powder detergents.

Procter & Gamble also has a heavy duty liquid, "Biz", which is still in test market. P&G, naturally, is keeping a close eye on Lever's activity in the field. One of the early starters was Armour with a product named "Gee". Introduced late in 1955, "Gee" was subsequently withdrawn from the market. After the difficulties, understood to be formulation problems, were straightened out, "Gee" again made its appearance on grocery store shelves.

Although rumors crop up from time to time concerning a heavy duty liquid detergent made by Colgate-Palmolive Co., no such product is currently being marketed.

Quart and pint sizes of "Wisk," Lever's heavy duty sudsing liquid detergent, take up less space per unit on the grocery store shelf than a powder product providing a comparable amount of detergency in a carton. This factor is meant to appeal to retailers.

This is, as far as can be determined, the rundown on the list of liquid heavy duty detergents for the household market. Other firms are known to be working on the development of such products or investigating market possibilities.

Firms specializing in industrial soaps and detergents are getting into the heavy duty liquid act too. Beach Soap Co. of Lawrence, Mass., has a heavy duty liquid detergent trade named "Lydet". The product is designed for commercial and institutional cleaning. Another product in this category is "S-100", an offering of Fine Laboratories, Inc., Freeport, Ill.

Naturally, a great many people would like to know what is going on in the heavy duty liquid detergent field. They are particularly interested in knowing how much of the market products of this type are likely to take over. Obviously, this article cannot provide all of the answers. Only time will tell the complete story. However, certain facts have now emerged regarding the heavy duty liquids upon which it is possible to base certain predictions regarding future developments.

As the writer sees it, there are about five principal classes of interested parties in this innovation in the detergent field: 1. Manufacturers of consumer products who have the biggest stake. 2. Industrial detergent manufacturers who may have a minor financial stake. 3. Raw material suppliers who may have a very important stake in the proceedings but who are hazy about just what materials will be required. 4. Foreign onlookers who like to observe U. S. trends and capitalize on them in their own countries to the extent permitted by custom and economy. 5. Curosity seekers who are just interested from an onlookers point of view and never intend to get involved one way or the other. To all these people, the one most important factor is the market potential of the heavy duty liquid detergents and their effect on competing products.

Before we can get into that phase of our inquiry, we should examine how a heavy duty liquid detergent is constituted. Its advantages and disadvantages over powdered products should be studied. First, the term "heavy duty" means

Lever is following up "Wisk" with "Hum" a heavy duty liquid detergent of the low sudsing variety. It is designed specifically for automatic clothes washers and comes in quart and pint cans featuring non-slip caps for wet hands and dripless pour spouts.

that the product is on the alkaline side and suitable for laundry use. "Light duty" means that the pH of the product is close to neutral, such products are designed for light household cleaning, such as the washing of lightly soiled and delicate colored fabrics. These terms "light duty" and "heavy duty" have always been with us. However, formerly they were not used in the trade as widely as at present.

Bar soaps built with alkaline salts for heavy duty laundry use included such products as "P&G Naphtha", "Artic White", etc. Light duty laundry bars were "Fels Naphtha", "Lennox", "Sunlight", etc. When flake and powdered soaps were introduced in the household package field the same distinction was made. "Lux" flakes, "Ivory Snow", "Kirkman" flakes were, and still are, typical light duty soaps. Products such as "Duz", "Rinso" and "Ad" are classified as built, heavy duty soaps.

Heavy duty built powders differed from the heavy duty built soap bars in the types of builders used. There is greater leeway in formulating powder products. The phosphates as builders came into wider use, particularly the tetra sodium pyrophosphates. While it is possible to build soap in powder and bar form, liquid soaps can only be built to a moderate degree. Thus, liquid, or potash soaps, have been available as retail products only in the form of hair shampoos. These were mainly of the coconut oil type.

Industrially, of course, liquid soaps have done much better. The development and active promotion of improved, better looking liquid soap dispensers has helped enormously the sale of potash soaps for hand cleaning in the industrial and institutional fields.

Synthetic detergents first appeared as light duty powders. Early products were "Dreft" (Procter & Gamble) and "Vel" (Colgate-Palmolive Co.). The addition of alkaline type builders, particularly sodium tripolyphosphate resulted in such heavy duty powders as "Tide", "Cheer", "Fab", "Surf", "Rinso Blue", etc.

"Biz," Procter & Gamble's entry in the heavy duty liquid detergent field, is packaged in pint and quart cans featuring an overall gold design with word "Biz" in red on a white background. Words "for whiter family washes" are white on blue background.

The next development in the unfolding saga of synthetic detergents was the introduction a few years ago of light duty liquids. These would appear to be a natural, as some types of synthetics are liquid in their 100 per cent active form. However, their introduction was not at all easy. The public was not prepared for the low foam types initially introduced. Skin defatting problems arose. The original nonionic "Igepal" type product went through a series of formulation changes and finally wound up as an anionic sulfonated modified "Igepal". Today, the base for most light duty liquid detergents is a mixture of organic or ammonium salts of sulfonated tridecyl alcohol ether, fatty alcohol or dodecyl-benzene plus various other agents such as suds improvers, rust inhibitors and other agents. The growth of light duty liquid detergents has been phenomenal over the past three or four years. One principal reason for the rapid growth has been packaging in metal cans. A fair amount is still glass packaged. Examples of these products are "Liquid Lux", "Vel Liquid", "Scamper", "Joy", "Glim", etc.

It would seem natural, therefore, to expect that someone would try to develop and market a liquid heavy duty product. Obviously, these products would not be competitors of light duty liquid detergents any more than "Tide" is a competitor of "Dreft" or "Rinso" competes with "Lux" flakes. Rather, the heavy duty liquid is a competitor of heavy duty powders. "Biz" will sell against "Tide"; "Wisk" against "Surf", etc. Each competes in the role for which it is designed, namely, heavy duty laundry work. This does not mean that they will have similar formulations. Heavy duty soap powders were not ground bar soaps. The builders were almost entirely different in proportions

used and types. Heavy duty synthetic powders were not the same as heavy duty soap powders. Even here the proportions and types of builders were altered. It is not likely that the heavy duty liquid synthetics will follow the formulation of their powdered cousins either and formulations to date point to marked differences.

Advantages

LEAVING the case of formulations for the moment, let us examine the qualities of a heavy duty liquid that would make it a preferred item over a powder. First, its convenience. Powders tend to spill out of cartons and track around. The liquid can be poured out more easily and sealed in with the replaceable cap. Second, its instant solubility in hot or cold water is unquestioned. Powders sprinkled into the washer may fold into the dry clothes and not get completely into solution until the wash cycle is half over. Third, the liquid permits easy penetration for spot cleaning of stains, etc. Often a housewife likes to rub a little detergent into the cuffs or collar of a shirt before dropping it into the wash. With a powder this is sometimes difficult to effect unless water is handy from some source other than the automatic machine. With a liquid, however, such application is very quick and easy. Fourth, there is some saving of space due to greater density. This saving in space is very small when equivalent cleansing values are considered. For example, if a ½ cup of liquid is equivalent in washing power to 2/3 cup of powder, the space saving is 33 per cent not 60 per cent as density considerations might indicate.

Powders could be made denser, of course. But if this were done, there would be an increased difficulty in putting the powder into solution. This would be very undesirable. Fifth, special ingredients, such as bluing, (contained in both "Whisk" and "Biz") can be incorporated in higher concentration without danger of local spotting on the clothes.

Disadvantages

NOW, what factors favor powders over liquids, if any? First, although the liquid is denser than the powder (about 1.2 to 0.5) you still require as much per wash since the 50 per cent water or so in the liquid formula, just goes along for the ride. Package directions and the writer's experience call for approximately ½ cup of liquid per normal wash. Powdered products call for from ½ to 2/3 cup. Using 2/3 cup as the equivalent powder for ½ cup of liquid, a little mathematics will show that a housewife will have to carry home about twice as much liquid detergent as powder detergent for an equivalent amount of washing. This includes the weight of the can which is considerably heavier per unit volume than a carton.

Secondly, with regard to cost to the consumer. The powder on the present basis of pricing is considerably less. Even under extreme competitive conditions, it would appear that this relationship must exist because the products do contain water which must be handled and transported. The container for liquids must be sturdy and the ingredients of the formula as presently constituted are more expensive than powders. How much more does the liquid cost the consumer than the solid product? At the present time a 22 ounce of a standard powder detergent costs about 32¢. On the basis of 2/3 cup per wash this works out to a cost of approximately four cents per wash. At 39 cents per pint for liquid detergent and ½ cup per wash, the cost is 9.8 cents per wash. At 67¢ per quart, the cost is 8.4 cents per wash. In either case the cost of the liquid product is more than double that of the solid.

Designed to capitalize on trend to larger size packages in half gallon "Wisk" can by Continental Can Co. Note folded down handle to permit stacking on grocery store shelves.

Third, how do liquids compare with powders in terms of performance? Data available to the writer indicates that the liquid products as presently constituted are very close to their solid counterparts in detergent value.

The problem before the housewife then, whether she puts it into these words or not, is to determine if a smaller, but heavier liquid product which she can use with less spillage and can apply more directly to the wash, is worth twice the cost of a powdered product. Lever Brothers says she will. Procter & Gamble says she might, and Colgate she has made no commitment. Only time will settle this point conclusively! The writer, however, can't wait this one out, or there would be no point in writing this article in the first place. So with this in mind, let us examine some of the conditions for producing a heavy duty detergent.

The primary consideration is that the mineral salts added must be soluble enough to prevent separation. They should be builders in the true sense, enhancing the detergency of the active ingredient and should be fairly alkaline. As a start one can visualize a solution of a heavy duty base powder containing 20 per cent active sodium dodecyl benzene, 50 per cent sodium tripolyphosphate and 30 per cent sodium sulfate. Right away one can predict difficulties since the polyphosphate's salt is

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Isolation and determination by ion exchange technique of

Nonionic Surfactants

By Lloyd E. Weeks, Martin E. Ginn* and Charles E. Baker†

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ABSTRACT

The nonionic portion of a surfactant mixture can be determined gravimetrically following sorption of ionic surfactants from an aqueous ethanol solution on anion and cation exchange resins. Accuracy and reproducibility are satisfactory and the method can be used for routine analysis.

DETERGENTS based on combinations of nonionic and ionic surfactants have advantages over single actives. Some advantages are improved foam stability (1) (2) (3), synergistic detergency (2) (3), and better product clarity (2) in case of liquids. Certain combinations can also be used to reduce foam. In the preparation of emulsifiers, it is usually necessary to mix surfactants to achieve maximum emulsion stability.

Analysis of these mixtures for purposes of quality control or identification has, however, proved difficult. Separation of nonionics from surfactant mixtures by extraction procedures (4) is difficult owing to similarity in solubility, and often achieves only partial separation. Gravimetric (5), volumetric (6), and colorimetric (7) (8) methods are available for determining nonionics, but these require a foreknowledge of the type of nonionic present. Also, the nonionic is not isolated in an uncombined state, making confirmation of its identity difficult. Efforts were therefore directed to developing a rapid and simple method free of these shortcomings.

Since nonionic surfactants are stable to most alkalis and acids, salts, and resins, this property can be utilized in their analysis. That is, ion exchange should be a useful tool to separate nonionics by sorbing ionic surfactants onto basic anion and acidic cation exchange resins. Little has been reported on using this technique for separating ionic surfactant types. Weiss et al (9) mentioned that anionic types could be sorbed onto cation and anion exchange resins while nonionics would remain in the effluent. Their method, however, did not effect a complete separation. Barber et al (10) reported that cationics could be removed by ion exchange to eliminate their interference in subsequent anaylsis of nonionic agents, but this was specific to cationic mixtures.

Since the majority of detergents are combinations of anionics and nonionics, emphasis was placed on developing a method that would quantitatively isolate the nonionic portion from such mixtures. By proper selection of resins and conditions it should also be possible to utilize ion exchange to separate cationic surfactants from nonionics. The ion exchange method developed here is based first on exchange of the surfactant anions in the solution phase with the hydroxyl ions of the resin. The effluent is next passed through a cation exchange resin where the detergent cations are exchanged for resin hydrogen ions. The final effluent then, contains only the nonionic portion of the original mixture. Figure 1 illustrates how ionic surfactants exchange with the resins, resulting in isolation of nonionic matter.

To achieve a practical separation, it was desirable that the sample size be sufficient to yield adequate nonionic surfactant for subsequent analysis, particularly where the proportion of nonionic to anionic was low. It was also desirable to minimize washing and evaporation times for the final effluent. Pre-

Nonionic portion of a surfactant mixture can be determined gravimetrically following sorption of ionic surfactants from aqueous ethanol solution on anion, cation exchange resins. Method is accurate, reproducible.

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liminary studies were accordingly concerned with the selection of suitable anion and cation exchange resins, their exchange capacity and volumes required, and the proper solvent system.

Method

Equipment:

Resin columns (see Fig. 1)

Glass tubes, at least 23 cm long x 30 mm inside diameter fitted with a stopcock, were used to hold the anion exchange resin.

Glass chromatography tubes, 25 cm long x 10 mm inside diameter, were used to hold the cation exchange resin.

Beakers, 250 ml, 1000-ml Griffin.

Pipette, 50 ml.

Oven, vacuum oven maintained at 50°C.

Materials

Solvents: Distilled water, absolute ethanol.

Resins: "Dowex 1-X10" (50-100 mesh), Dow Chemical. "Dowex 50-X4" (20-50 mesh) Dow Chemical.

Miscellaneous: Glass wool, boiling chips.

***Procedure*:**

Preparation of Sample

The surfactant mix, previously separated from the detergent composition by ethanol extraction, was dried at 50°C overnight in a vacuum oven. Using 10.00 g of this dried active, four per cent solution (called the test solution) was made by dilution to 250 ml with 50 per cent by volume aqueous ethanol. Although this paper is confined to the use of isolated surfactant actives, it should also be possible to isolate nonionics from the detergent "as received."

Preparation of resin columns.

1. *Regeneration of "Dowex 1 X10" to OH- Form.*

a. 400 grams of resin was weighed into a 1000-ml beaker.

b. 500 ml of 0.05N Na_2CO_3 was added and let stand at least 15 minutes with frequent stirring. The resin was filtered on a Buchner funnel and then returned to the beaker.

c. Part *b* was repeated with 500 ml of 1N NaOH.

d. Part *b* was repeated with 500 ml of 2.5N NaOH.

e. The resin was placed in a large diameter column and one liter of 2.5N NaOH was passed through the bed.

f. Resin was removed from the column and washed with water by decantation until the solution was only weakly alkaline to Alkacid paper.

2. *Washing of resins*

Both the converted "Dowex 1-X10" and the "Dowex 50-X4" were washed three times with about 250 ml of the 50 per cent by volume aqueous ethanol which will hereafter be referred to as the solvent. (Although decantation was satisfactory for the "Dowex 50," a Buchner funnel was used for filtering the finer meshed "Dowex 1.")

3. *Preparation of resin beds*

a. A small plug of glass wool was placed in the bottom of each column. (Packing the wool too tightly affected the flow rate.)

b. Solvent was added to the columns. Then "Dowex 1" resin was poured into the larger column, and "Dowex 50" into the smaller. The stopcocks were opened, allowing the resin to pack by gravity. Then "Dowex 1" was added until 100 cc of packed resin was in the column. The entire 10 mm diameter portion of the cation column was filled with "Dowex 50." The columns were placed in position as shown in Figure 1 and washed with 250 ml of solvent, allowing about 100 ml to run through and the remainder retained. A 250 ml *tared beaker* containing a boiling chip was placed under the lower column to collect the effluent.

4. *Isolation and Determination of Nonionic Active.* The analysis was run in duplicate.

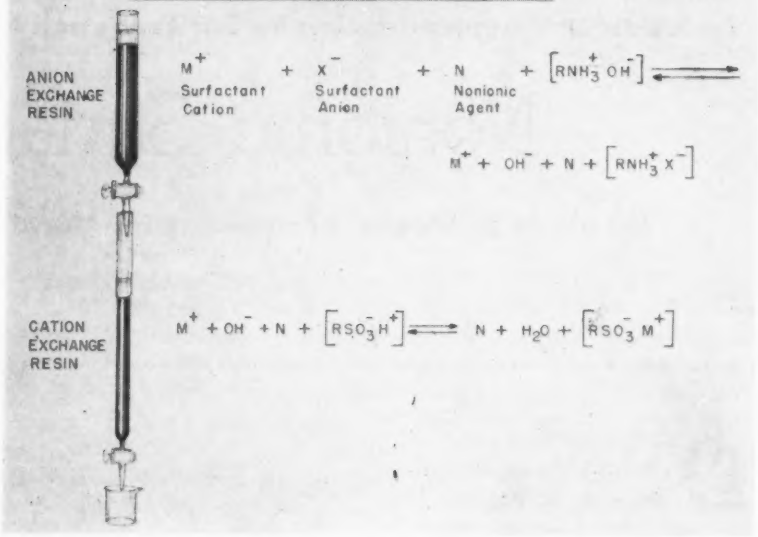
a. 50 ml of the test solution was pipetted into the upper column. The rate of flow was the maximum obtainable; that is, about five ml per minute.

b. Washes — The resins were washed first with 50 ml, then with three 25-ml portions of the solvent, allowing the solvent to reach the top level of the resins before adding the next wash.

The beaker containing the effluent was placed on a hot plate to begin evaporation. It was replaced by a 400 ml beaker, and the resins were washed with 12 more

FIGURE 1.

ION EXCHANGE COLUMNS AND MECHANISM


ANION EXCHANGE RESIN
CATION EXCHANGE RESIN
M+ + X− + N + [RNH3+ OH−] ⟹
Surfactant Cation
Surfactant Anion
Nonionic Agent
M+ + OH− + N + [RNH3+ X−]
M+ + OH− + N + [RSO3− H+] ⟹ N + H2O + [RSO3− M+]

25-ml portions of solvent.

These washings were partially evaporated, then transferred to the tared beaker and the evaporation continued. With some nonionics having very limited solubility, washing with hot solvent was necessary. Where this was indicated by a smaller recovery than anticipated, another 50 ml wash with hot solvent was given. When a significant residue was obtained, washing with hot solvent was continued until no additional residue was recovered.

c. The volume of combined washings was reduced to between five to 10 ml, by heating on the hot plate, adding small amounts of ethanol to aid in removing water. Then the beaker was transferred to a steam bath and the residue taken to dryness.

d. Following overnight drying in a vacuum oven at 50°C, the sample was cooled in a desiccator and weighed.

5. *Calculation of % nonionic.*

% Nonionic in residue analyzed = wt. sample collected x 50.

Development of Method

SOLVENT SYSTEM: The main requirements for the solvent system in this approach are: (1) It must dissolve completely the surfactant mix; (2) it must promote the total removal of anionic agent by the resin without the adsorption of nonionic matter; and (3) it must be sufficiently volatile to allow ready isolation of the nonionic agent. A 1:1 mixture (by volume) of ethanol and water was found to satisfy these requirements, and was used for all the determinations.

The commercial surfactants used in this study are described in Table I.

Concentration and volume of sample solution: In some detergent compositions, the ratio of anionic to nonionic active may be as high as 95 to five. At this ratio, two grams of test sample should provide sufficient nonionic residue to weigh and use for subsequent analysis.

Fifty milliliters of a four per cent total active solution was found to be a convenient volume and concentration for the sample. This sample size and concentration was used throughout the investigation.

Drying actives and nonionic residues: Many of the anionics (alkyl sulfates) and nonionics (ethylene oxide condensates) decompose on heating at 100°C. For this reason it was desirable to dry recovered nonionic residues overnight in a vacuum oven, preferably at 50°C.

Choice of resins: Initial studies with various resins showed that "Dowex 1" and "Dowex 50" were quite suitable. "Dowex 1" is a strongly basic anion exchange resin composed of quaternary ammonium groups (trimethylbenzylammonium) attached to a styrene-divinylbenzene-matrix. This resin, supplied as a chloride salt, is converted to the hydroxyl form which subsequently exchanges its hydroxide ions for such surfactant anions as alkylbenzene sulfonates and alkyl sulfates.

"Dowex 50," a strongly acidic cation exchange resin, is a sulfonated styrene-divinylbenzene copolymer which in the hydrogen form exchanges hydrogen ions for cations such as quaternary ammonium, ammonium, sodium and potassium.

These resins totally deionized surfactant solutions, allowing only nonionic matter to pass through.

Table I

Surfactants Used

Code	Description	% Active	% Neutral Oil[a]
1. Anionics			
NaDDBS	Sodium dodecylbenzene sulfonate	87.6[b]	2.5
Soap	Coconut and tallow sodium soap	82.8	1.4
NH_4LS	Ammonium lauryl sulfate	30.0	—
NaLS	Sodium lauryl sulfate	97.8	1.0[c]
NaTS	Tallow alcohol sulfate	38.4	—
TEA-DDBS	Triethanolammonium dodecylbenzene sulfonate	—	—
NH_4DDBS	Ammonium dodecylbenzene sulfonate	35.7	—
2. Nonionics			
LDEA	Lauric diethanolamide	92[d]	—
LMEA	Lauric monoethanolamide	95[d]	—
PO + EO	Propylene oxide-ethylene oxide adduct of propylene glycol	99.2[e]	—
APhOH + EO	Alkylphenol + ethylene oxide	99.6[e]	—
OA + EO	Oxo alcohol + ethylene oxide	95[e]	—

[a] See reference No. 9 for method used to determine neutral oil
[b] Active by cationic titration
[c] Estimated by difference since the extraction method gave high results
[d] Reported by manufacturer
[e] Based on non-volatile

Application of Method

HAVING arrived at a satisfactory procedure, several combinations of various commercial anionic and nonionic surfactants were analyzed at 50/50 and 95/5 ratios (See Table II). The latter ratio represents the most extreme composition likely to be encountered.

50/50 combinations: At this ratio of anionic to nonionic, the results were quite satisfactory. Only a trace of anionic was present in the effluent in any case. Residues showed a high degree of purity, characterized by a greater crystallinity than the original non-ionic. The best results were obtained with NaDDBS (sodium dodecylbenzene sulfonate) and the fatty amide type nonionics LDEA (lauric diethanolamide) and LMEA (lauric monoethanolamide). These are the most common mixtures now on the market. The determined concentration of LDEA using ion exchange was 47.4 per cent. According to the manufacturer the calculated active concentration was 46.6 per cent which is within 0.8 per cent of the value obtained by the method.

Table II—Determination of Nonionics in Mixtures

Test No.	Surfactants in mix		% Nonionic* present	% Nonionic Found: Uncorrected	% Nonionic Found: Corrected for Neutral oil	Difference between found** and expected values	Av. % recovery of nonionic**
1	NaDDBS LDEA	a.	4.67	5.17 4.98	4.50 4.34	—0.25	94.6
		b.	46.60	47.3 47.6	46.3 46.6	—0.2	99.7
2	NaDDBS LMEA		48.00	47.9 47.9	46.8 46.8	—1.20	97.5
3	NaDDBS APhOH + EO		50.70	54.7 54.5	52.3 52.1	+1.5	103.0
4	NaDDBS OA + EO	a.	4.88	6.63 6.45	4.67 4.53	—0.28	94.4
		b.	49.30	50.7 50.3	49.7 49.3	+0.2	100.4
5	NaLS LDEA	a.	4.62	5.40 5.57	4.68 4.71	+0.07	102.0
		b.	46.40	45.7 45.8	45.2 45.3	—1.15	97.5
6	Soap PO + EO	a.	5.60	7.94 7.35	6.39 5.91	+0.55	109.9
		b.	53.0	55.7 53.8	55.0 53.2	+1.1	102.0

* Based on wt. nonionic active (according to purity by mfgr. or non-volatile content) ÷ total wt. of active present x 100.
**Value corrected for neutral oil.

Using similar calculations, the active content for the LMEA test solution was 48.0 per cent while the determined value was 47.9 per cent.

The results using an ethylene oxide condensate of an Oxo alcohol with NaDDBS were also good: The theoretical value was 49.3 per cent as compared with the determined value of 50.5 per cent. Substitution of sodium lauryl sulfate for NaDDBS did not alter the results significantly.

95/5 Combinations: Analysis of mixtures containing higher proportions of anionic surfactants was less accurate. However, it is emphasized that this ratio is the most severe test of the method, since here interference by neutral oil (organic nonionic impurities from the anionic active) is greatest. When this neutral oil is subtracted from the total nonionic matter isolated, the results are much closer to the amount of nonionic actually present. Although the error appears large expressed on the surfactant basis, it would be only 1/5 to ½ the magnitude given when expressed on the total detergent composition where the active content is from 20 to 50 per cent. In relation to the total detergent composition, the significance of the error in recovery of nonionic becomes much smaller.

Cooperative analysis: Since results of the ion exchange method for isolating nonionic surfactants appeared promising, a cooperative analysis was undertaken to establish further its accuracy and reproducibility. Samples representing typical actives from proprietary detergents were prepared and distributed to three Monsanto laboratories. Compositions are given in Table III. Results of the cooperative analysis are given in Table IV.

It is apparent that all values are fairly close to the expected. Analysis of variance applied to accuracy reveal that there is no difference between laboratories or dupli-

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Table III—Compositions for Cooperative Analysis

S_1: High sudsing Heavy duty detergent	S_2: High sudsing Heavy duty detergent	S_3 Controlled sudsing Heavy duty detergent	S_4: Liquid Light duty detergent
6.64% NaDDBS	17.02% NaDDBS	4.77% NaDDBS	18.00% NH_4DDBS
10.01% NaTS*	4.98% LMEA	14.23% APhOH + EO	12.48% NH_4LS
3.35% LMEA	78.00% Builders and moisture	81.00% Builders and moisture	9.52% LDEA
80.00% Builders and moisture			60.00% Aqueous ethanol and si salts

Active compositions represent those isolated from builders prior to ion exchange analysis. Their solutions of approximately 4% active content were prepared in 50:50 ethanol: water plus 0.1 g KOH per liter.

* Since NaTS would not dissolve in the solvent at room temperature, the S_1 solution was made up to volume at 44°C and sampled at that temperature in ensuing work to obtain uniform results. The other active solutions were prepared and dispensed at room temperature (25°C).

Purex Corp. Growth Outlook

A. C. Stoneman, executive vice-president, states liquid synthetic detergent sales have grown 97 per cent in last two years.

SALES of liquid detergents have increased 97 per cent in two years, making them the fastest growing product category in the soap and synthetic detergent field, Alan C. Stoneman, executive vice-president of Purex Corp., Ltd., declared recently. Speaking before a group of stock brokers and security analysts at the Bankers Club in New York, Mr. Stoneman also pointed out that he expected liquid detergent sales to continue to show substantial growth in the future.

Mr. Stoneman, accompanied by George A. Evans, secretary and treasurer of Purex, is touring many of the company's plants in the United States and Canada.

"Purex Corporation's own liquid detergent, 'Liquid Trend'," Mr. Stoneman pointed out, "showed an even sharper rise in sales over the two year period than other products in the liquid detergent field. 'Liquid Trend' was introduced first in 1955. Sales of this product for the first 11 months through May 31, 1956 totaled $3,121,146 and they are now running at about $8,000,000 annually.

"'Liquid Trend' enjoys an eight per cent share of the total liquid detergent market estimated at in excess of $90,000,000. The popularity of this product is largely the result of the sound merchandising of a high quality product priced below its competitors."

Mr. Stoneman pointed out that Purex Corp. did not begin marketing its products on a national scale until 1953. At that time its numerous cleansers, detergents, bleaches and other household chemical specialties were placed on sale in important Eastern centers. Sales in this area rose steadily and are now running double those of a year ago. The management of the company is planning to extend this market further with aggressive advertising and sales promotion campaigns.

Two years ago, Purex expanded its operations to include Canada. Sales there are showing continuous gains, according to Mr. Stoneman. In the 11 month period ended May 31, 1957 they were up 50 per cent over those in the comparable 1956 period, he said. Further gains by Purex in Canada were forecast by Mr. Stoneman. He pointed out that "Old Dutch Cleanser" is the leader in its classification in that country, having a 50 per cent share of the market for such products. Purex plans to broaden its distribution of its other products including "Old Dutch Bleach" and "Sweetheart Soap," Mr. Stoneman revealed. Purex also makes "Dry Trend" detergent, "Purex Liquid Bleach," "Beads O'Bleach" and "Blue-White," as well as numerous chemical specialties for industrial uses.

Net sales of $52,000,000 for Purex for the fiscal year ending June 30, 1957, as compared with $34,800,000 in 1956, were estimated by Mr. Stoneman. Net income for the 1957 fiscal year after taxes will total approximately $1,900,000, or almost twice the $1,000,000 net income after taxes reported by Purex in 1956. Income in the fiscal year ended June 30 last should be equal to between $2.35 and $2.40 a share, as against $1.59 a year ago.

Mr. Stoneman emphasized that Purex Corp. would not depart from the growth pattern it has been following and which has produced a six-fold increase in company sales in the last decade.

As for the company's research activities, Mr. Stoneman said that future growth of Purex will come from the development of new products as well as from the acquisition of other companies. In the past two years, Purex has acquired the Old Dutch Cleanser Division of Cudahy Packing Co., Chicago, and Manhattan Soap Co., New York, makers of "Blu-White" bluing and "Sweetheart Soap."

A. C. Stoneman

George A. Evans

Alkylphenol-ethylene oxide

NONIONIC SURFACTANTS

By J. M. Cloney and R. L. Mayhew*

Antara Products Division
General Aniline & Film Corp.

THE alkylphenol-ethylene oxide adducts occupy the largest segment of the ethylene oxide-based surfactant market in America today. Among the reasons for this are the following:

- The basic materials for production of these surfactants are general items of commerce.
- The technology of manufacture has been studied, improved and practiced for more than twenty years.
- The acceptance and use by thousands of plants in scores of industries demonstrate a wide spectrum of performance.
- The market price has been reduced steadily as tonnage has gone up.

In our competitive economy every surfactant user is finding greater advantages in these nonionic types. Their stability in acid or alkaline aqueous systems, their compatibility with other anionic or cationic surfactants, their superb detergency, emulsifying and dispersing properties, ease of handling, uniformity and consistent quality have contributed to their market success.

To establish the benchmark of the chemistry of these products Figure 1 shows the basic chemical structure. The alkyllate may vary from C_5 to C_{18} and may be mono-, di- or trisubstituted on the phenol. The ethylene oxide is added in an anhydrous system with an alkaline catalyst. The addition of the first ethylene oxide to the alkylphenol base is accomplished almost quantatively before further polymerization occurs.

This is due to the fact that the alkyl phenol hydrogen is more reactive than the alkylphenoxyethanol hydrogen. (8) When produced under normal conditions there is never any free alkylphenol in the nonionic surfactant. After this first reaction the chaining out of the ethylene oxide begins and this is a random reaction. By proper control the ethylene oxide can be chained out to any desired length, and reproducibility of the product at desired mol ratios is remarkable. Millions of pounds can be produced with very little differences in color, odor, solubility and performance of the mol ratio selected.

This general formula exposes two of the most significant advantages of the alkylphenol type nonionic: 1. There is an ether linkage to insure stability of the surfactant. 2. The product can be modified by either changing the molecular weight or type of the alkyl group on the phenol, or by varying the amount of ethylene oxide on a given alkylphenol.

Surfactant laboratories around the country have been checking many alkylphenols and making hundreds of nonionics over the past several years. But in commercial practice there are only a few alkylphenols produced for surfactant purposes. Figure II shows the general formulae for the most common alkylphenol nonionic surfactants: octylphenol, nonylphenol, dodecylphenol, dinonylphenol, pentadecylphenol. All are ethoxylated by one or more producers and are available on the American market.

Alkylphenol Preparation

Alkylphenol is prepared by the reaction of phenol with an olefin using a suitable catalyst, then distilled to insure uniformity of end product. The olefins that have

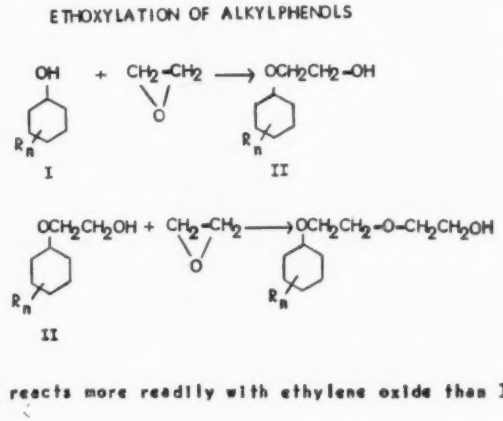


Figure 1. Basic chemical structure of alkylphenol-ethylene oxide type nonionic surfactants.

* Paper presented during 43rd midyear meeting, Chemical Specialties Manufacturers Association, Chicago, May 21, 1957.

been used commercially are amylene, diisobutylene, tripropylene, tetrapropylene, 2-ethyl hexene and others. Both the phenol and the olefins are standard items of commerce. They are available from several sources, in large tonnage, at reasonably low prices. Although ethylene oxide addition products are most common, it is possible to solubilize the alkylphenol with a combination of propylene oxide and ethylene oxide.

Because of broad market acceptance and large tonnage production, these surfactants are available from dozens of national and local suppliers. It is impossible to list every trade name or every supplier of alkylphenol-ethylene oxide nonionic surfactants. The following list covers only a few of the marketers.

Antara Chemicals Division of General Aniline & Film Corp.
Armour & Co.
Atlas Powder Co.
Colgate Palmolive Co.
Wm. Cooper & Nephews Co.
E. F. Drew & Co.
Emulsol Chemical Corp.
Hercules Powder Co.
E. F. Houghton & Co.
Jefferson Chemical Co.
Metro-Atlantic Co.
Ninol Laboratories, Inc.
Nopco Chemical Co.
Olin-Matheson Chemical Corp.
Oronite Chemical Co.
Onyx Oil & Chemical Co.
Procter & Gamble Co.
Retzloff Chemical Co.
Rohm & Haas Co.
Sharples Chemical Co.
Stepan Chemical Co.
Swift & Co.
Union Carbide Chemicals
Visco Co.

This list is far from complete, but it does indicate the number of suppliers participating in this market.

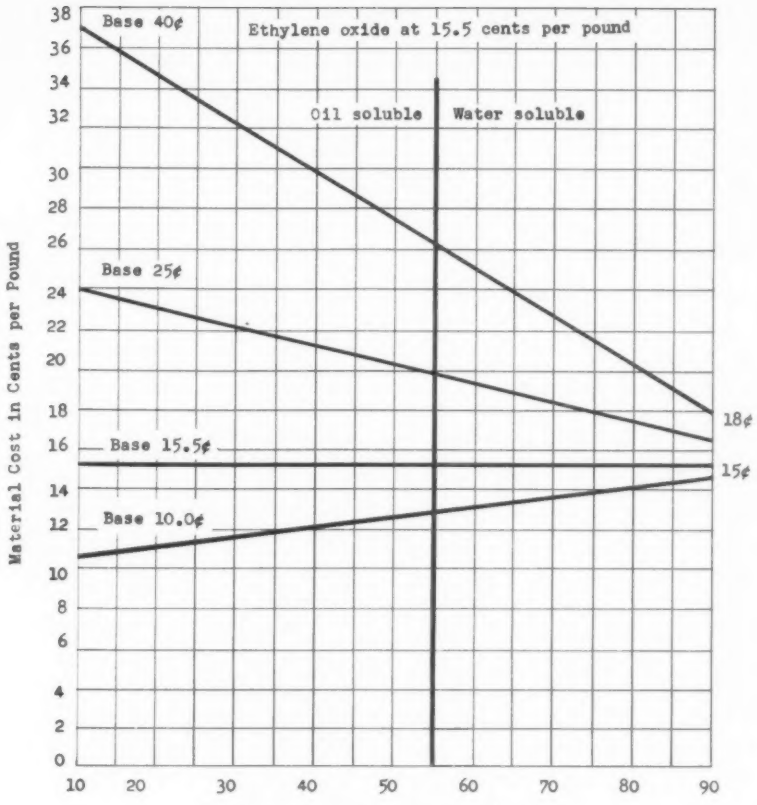


Figure 3. Raw material cost variables.

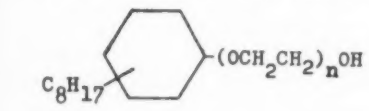
Production Economics

THE general economics of the production of alkylphenol-ethylene oxide nonionics have been mentioned before. Ethylene oxide, phenol and the olefins for alkylation are readily available, mass produced, multiple source chemical products. In the production of all ethylene oxide based surfactants certain factors have their effect on the cost of manufacture and the resulting market prices.

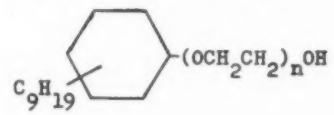
One of the most serious economic factors is the investment problem. Equipment for the handling and processing of ethylene oxide is necessarily expensive. Inadequate or improper facilities can lead to disaster. The reaction equipment must be corrosion resistant. As in most other chemical process operations the handling and storage of raw materials and finished goods demands considerable capital.

Operating costs are largely dependent upon the volume of product to be produced. However, a given unit will produce considerably more short chain product than long chain because of the longer time cycle required in adding the ethylene oxide for longer chain adducts. In low tonnage specialties the operating costs can be a major factor in the total cost. A larger item in production cost of any ethylene oxide adduct is the

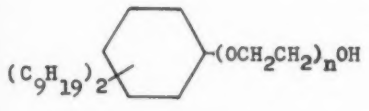
Figure 2. Representative alkylphenol-ethylene oxide surfactants in commercial use.



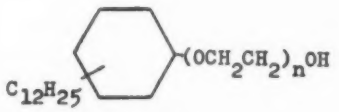
Octylphenol



Nonylphenol



Dinonylphenol



Dodecylphenol

Table I

Alkyl Phenol Constant — Varying Ethylene Oxide Nonylphenol Base

% ETO	Mol Ratio	Physical Form	Cld. Pt. 1% H_2O °F.	R-M Foam .05% H_2O 77°F.
23	1½	Liquid	Ins.	..
44	4	Liquid	Ins.	..
54	6	Liquid	Ca 32	28
65	10	Liquid	130	61
68	11	Cld. Liq.	160	79
75	15	Soft Pst.	200	110
80	20	Paste	Ca 220	118
86	30	Wax	Ca 240	106
89	40	Wax	Ca 280	70
91	50	Wax	Ca 320	35
95	100	Wax	Ca 400	30

raw materials. Figure III shows the trend of raw material costs in the nonionic surfactant as the ethylene oxide content is increased.

Assuming that the cost of ethylene oxide remains constant and different cost base materials are ethoxylated, the raw materials cost for the end product is graphed here. When a 40 cent base material is treated with 15.5 cent ethylene oxide to the extent of only 10 per cent by weight of the surfactant material, then raw materials cost about 37½ cents per pound. On the other hand if 90 per cent by weight of ethylene oxide is added the materials cost drops to 18 cents per pound. On the other side of the economics is a 10 cents base material where the materials cost moves from about 10½ to 15 cents, depending upon the amount of ethylene oxide in the surfactant. The equalizer to this graph is the operating cost which generally increases as more ethylene oxide is added.

By far the largest tonnage of nonionic surfactants from ethylene oxide are in the class of 60 to 70 per cent ethylene oxide. In this range some of the apparent differences in base material costs begin to minimize. At the higher molecular weights the difference in costs of base material is almost lost. Looking at the area of oil soluble nonionics the cost of the base material makes a significant difference of materials cost. Combining both materials and operating costs, the resulting market price for alkylphenol-ethylene oxide adducts containing more than 40 per cent ethylene oxide is about the same.

Ethoxylated alkylphenols were invented by Steindorff et al (11) in 1934 in Germany. Small quantities of these products were imported until 1937 when production was started in this country.

Basic Advantages

SOME of the basic advantages of these nonionics are built into their chemical structure.

- The fact that they are nonionic makes them compatible with either anionics or cationics. They cannot form insoluble metal salts as soaps and some anionic surfactants do in hard water.

- The ether linkage insures excellent stability in either acid or alkaline systems. This linkage gives stability in use solutions of oxidizing agents such as hypochlorite, peroxide or perborate.

- The heat stability of these surfactants is outstanding. These materials are used regularly in systems where operations are at temperatures in excess of 400°F.

- The fact that the nonylphenol hydrogen is more reactive than the nonylphenoxy - ethanol hydrogen, insures that this nonionic is virtually free of unreacted base materials. This is not true of all nonionic classes. The thorough ethoxylation of alkylphenol minimizes the toxicity or dermatological possibilities which might be associated with the free base material. Further, when these nonionics are used as intermediates for sulfation there is no problem in mixing sulfated nonionic with other sulfated bases. In this same connection there is another important reason for the success of alkylphenol nonionics. The alkylphenols most widely used for nonionic surfactants are the only hydrophobic base materials that can be used to produce a 100 per cent active, colorless, odorless, homogenous liquid nonionic surfactant at the hydrophobic-hydrophilic balance most generally used in a wide variety of industries as a general purpose surfactant.

The producers of ethoxylated alkylphenols offer the users and formulators a homologous series of nonionic surfactants on several alkylphenols. The spectrum of physical and chemical properties and performance ranges demonstrated by these surfactants allows the user an opportunity to select the balance giving ideal performance in specific cases.

Table I shows how changing the amount of ethylene oxide on nonylphenol from 1½ per cent to (100 mols) 95 per cent alters one or two typical physical and chemical properties. Several reports have been written covering details on the characteristics of these products. The references noted describe nonionics of all kinds and alkylphenol based nonionics in particular. (2, 3, 4, 8, 11, 13)

Applications

GENERALLY the shorter chain lengths are effective foam control agents and cosolvents. Surfactants containing 44 to 65 per cent ethylene oxide are good emulsifiers with the phase shift from water-in-oil, to oil-in-water as the chain length increases. The favorite alkylphenol-based nonionics contain 65 to 75 per cent ethylene oxide to give all-around performance in general use. With more than 75 per cent ethylene oxide these nonionics function as stabilizers for latices, dispersants for solids in aqueous systems and as detergents or emulsifiers in strong electrolyte systems. As the percentage of ethylene oxide

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Evaluation of whitening efficiency of

Fluorescent Whitening Agents

By Eugene Allen American Cyanamid Co., Bound Brook, N. J.

Part II

In the first installment of this article, Mr. Allen described various methods for evaluating fluorescent whitening agents. This month he outlines results obtained using those methods.—Ed.

TO show the results obtainable by various methods described (except that involving the use of a specially designed fluorimeter that has not yet been built), six different fluorescent whitening agents (designated B to G, inclusive) were compared against a seventh (designated A). A dyeing of Whitener A on cotton was made at a concentration of 0.0060 percent on the weight of the cloth. Dyeings of each of the other whiteners were made on cotton at varying concentrations. The concentration of each whitener having the same effective fluorescence as 0.0060 percent of Whitener A was determined by each method. Results are shown in Table I.

Table I. Comparison of Whiteners for Whitening Power by Different Methods

Concentration Required to Give Same Whitening Power as 0.0060% of Whitener A

Whitener	Visual Examination in Daylight[a]	Visual Examination Under Ultraviolet Light	Use of Fluorimeter	Use of Fluorimeter Corr. Factor
B	.0096	.0090	.0142	.0106
C	.0096	.0090	.0141	.0096
D	.0092	.0070	.0092	.0086
E	.0075	.0073	.0077	.0069
F	.0058	.0060	.0062	.0059
G	.0055	.0050	.0049	.0048

[a]Visual examination in daylight was made directly in terms of whitening power, examination by the other methods listed was made in terms of amount of fluorescence as an indication of whitening power.

The results in Table I show that the use of fluorimeter plus correction factor gives fairly accurate results, based on comparison with results obtained by visual examination in daylight. It must be remembered that visual examination in daylight is rather uncertain, particularly where whiteners of different shades are being compared. The use of a fluorimeter without correction factor gives seriously inaccurate results for Whiteners B and C, and visual examination under ultraviolet light gives inaccurate results for Whitener D.

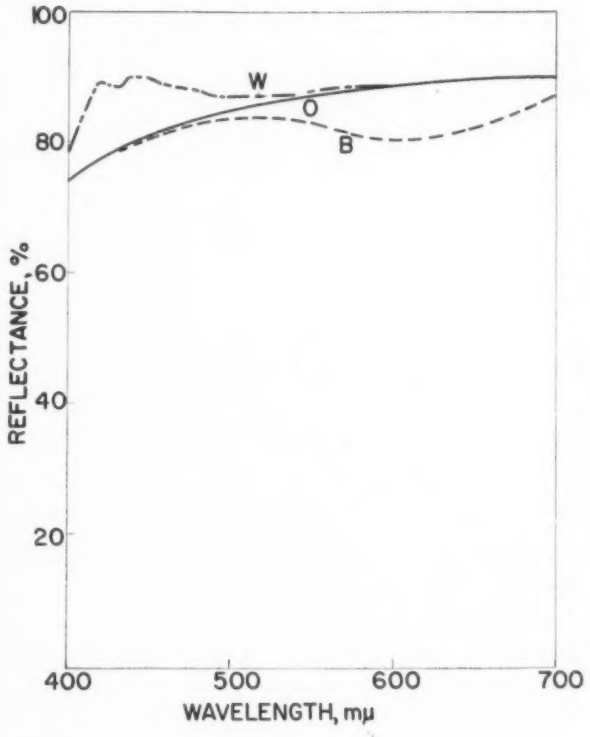


Figure 2. Reflectance curves of old bleached cotton cloth, before and after treatment with laundry blue and fluorescent whitener. O — Original cotton cloth; B — Same cloth treated with laundry blue; W— Same cloth treated with fluorescent whitening agent (apparent reflectance curve)

Summary

IN summary, fluorescent whitening agents are dyes which absorb ultraviolet radiation and emit this energy in the form of blue light. The emitted light serves two functions: the first is to counteract the yellowness of the substrate, and the second is to make the substrate lighter. Both of these effects contribute to improving the whiteness of the substrate. However, the decrease in yellowness is much greater

Table II. Comparison of Methods for Evaluating Fluorescent Whitening Agents

Method	Distinguishable[a] Strength Difference	Advantages	Disadvantages
Visual examination in daylight	10%	Simplest and most direct method	1. Poor precision, especially in comparing whiteners of different shade. 2. Great variation in daylight from minute to minute makes results unreliable.
Visual examination under ultraviolet illumination	5%	1. Very simple and convenient. 2. Fairly good reproducibility for work with a single whitener.	Poor results in comparing whiteners of different types
Use of fluorimeter	1½%	1. Fairly simple and convenient. 2. Very good reproducibility for work with a single whitener.	Poor results in comparing whiteners of different types
Use of fluorimeter with correction factor	1½%	1. Very good reproducibility for work with a single whitener. 2. Good results in comparing whiteners of different types.	Specialized equipment needed to obtain data required for calculation of correction factor
Use of redesigned fluorimeter	1½%	1. Simple and convenient. 2. Very good reproducibility for work with a single whitener. 3. Good results in comparing whiteners of different types.	Difficult to design such a fluorimeter

[a]In dyeings with same whitener.

than the increase in lightness. In contrast with fluorescent whitening agents, dyes and pigments of the laundry blue type make the substrate darker while removing the yellowness.

A convenient way of evaulating fluorescent whiteners for their whitening power is to measure their "effective fluorescence" (as defined in this article), since two dyeings with equal effective fluorescence appear equally white to the eye, even though two entirely different whiteners may be involved. Of course, dyeings may be also evaluated by direct examination in daylight, but this is unsatisfactory for several reasons. There are several methods available or in the process of development for evaluating effective fluorescence. Table II presents a summary of the characteristics, advantages and disadvantages of each of the methods.

The last method listed in Table II is at the drawing board stage at present, but we hope that a fluorimeter having the desired characteristics will be designed shortly. Work is in progress on this instrument in our laboratory.

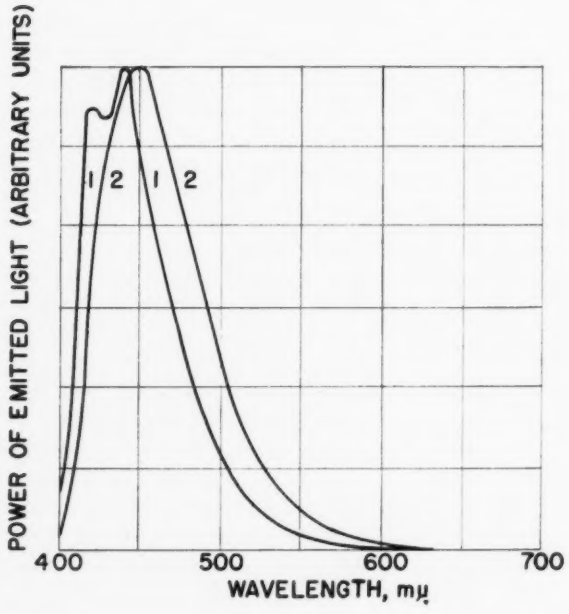


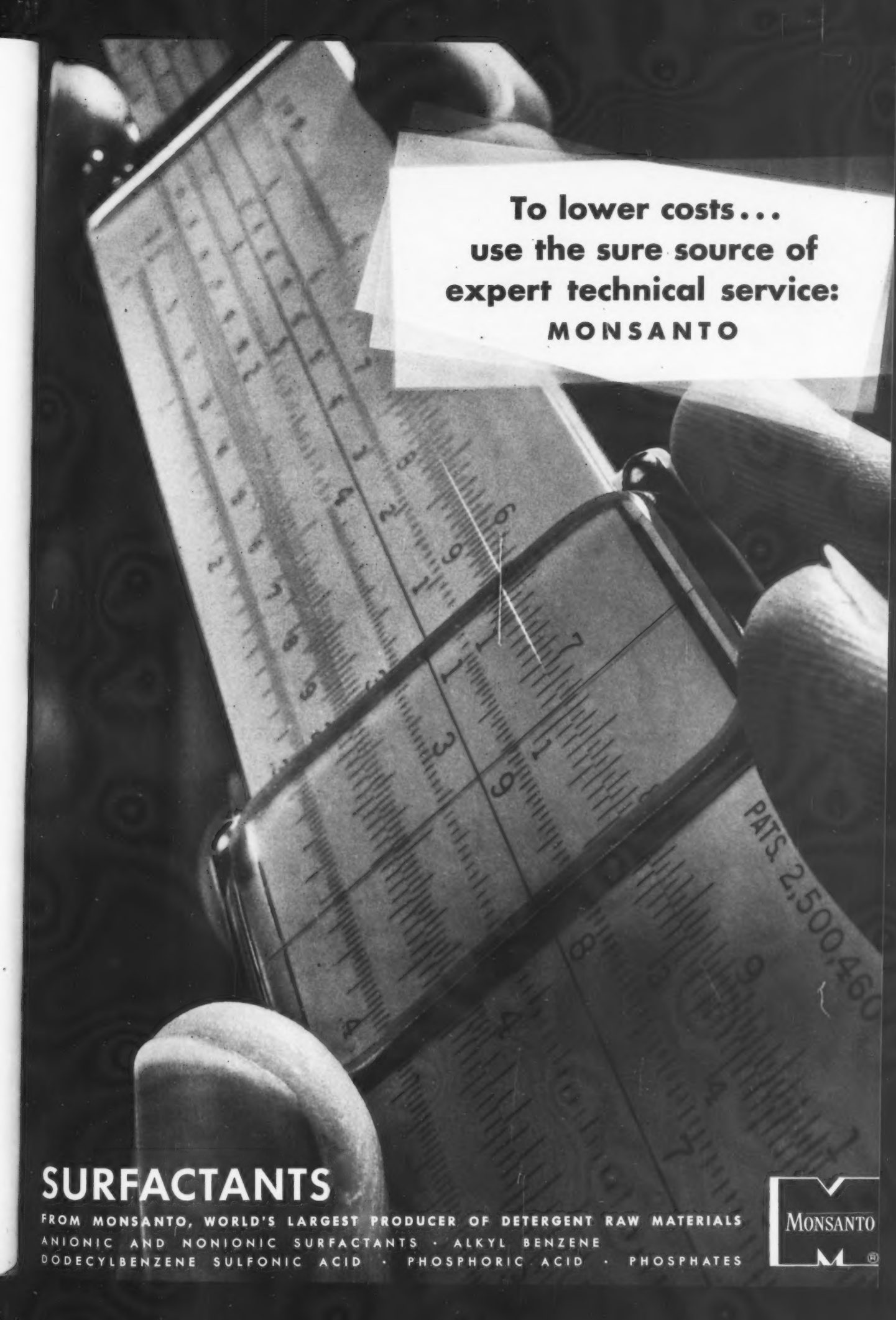
Figure 3. Distribution of energy in emitted light from dyeings of red-shade and green shade whiteners. 1. Red-shade whitener; 2. Green-shade whitener.

Appendix

Calculation of "Apparent Reflectance Curve" of cotton cloth treated with fluorescent whitener, shown in Figure 2: A spectrophotometer cannot be used for measuring fluorescent materials. Although there are ways of determining the energy distribution from fluorescent samples, it was considered simpler for the purposes of this article to obtain the energy distribution of cotton cloth treated with fluorescent whitening agents by calculation.

Since the emitted light arising from fluorescence combines additively with the reflected light from the cloth, it is only necessary to add the energies of emission and reflection at each wavelength. (The yellowing effect of the dye on the reflected light, arising from some absorption in the blue, is disregarded as being small compared with the effect of the fluorescence, for ordinary concentrations of dye.) The reflectance curve was first multiplied through at each wavelength by Ec (the energy distribution of Source C), in order to obtain the energy distribution of the reflected light, under the assumption that the sample is illuminated by Source C. This energy was add-

(*Turn to Page* 115)



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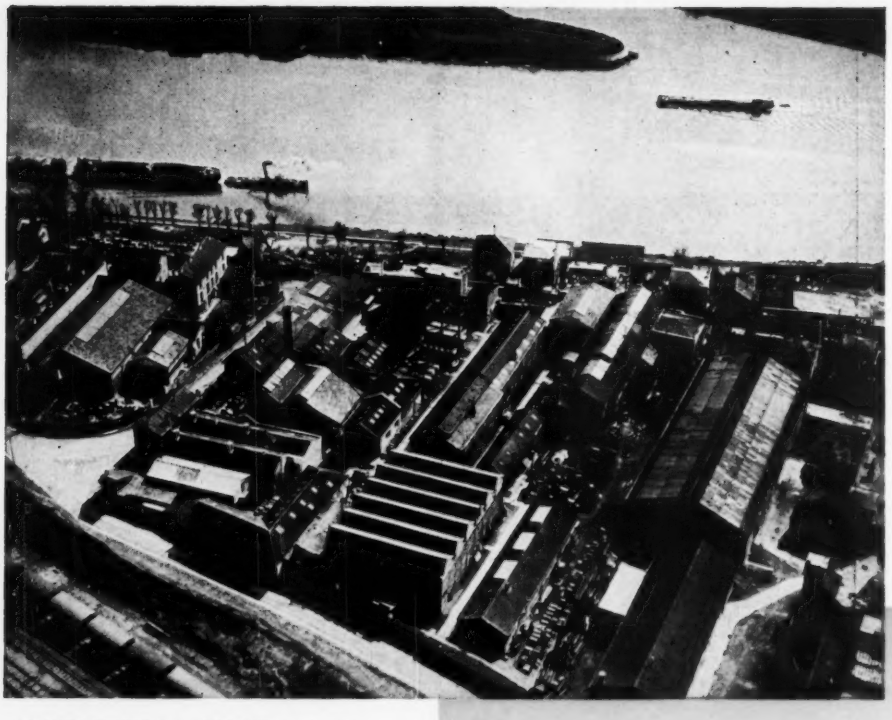

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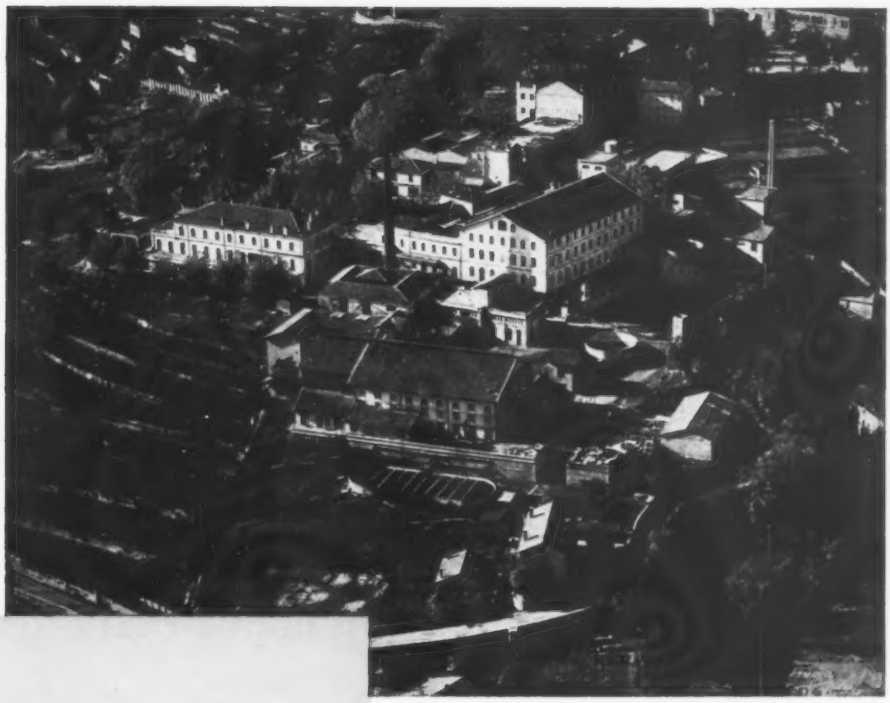

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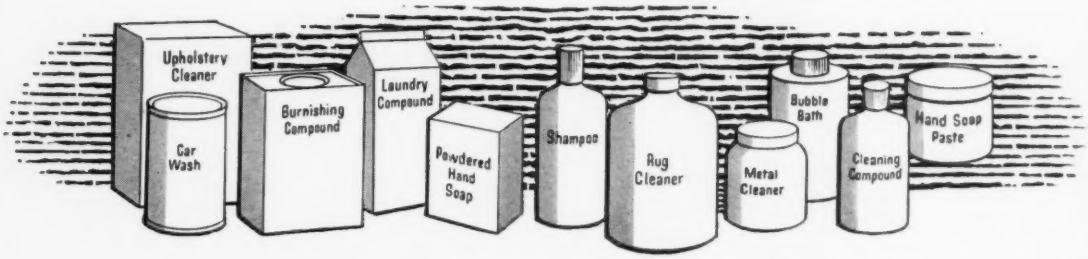

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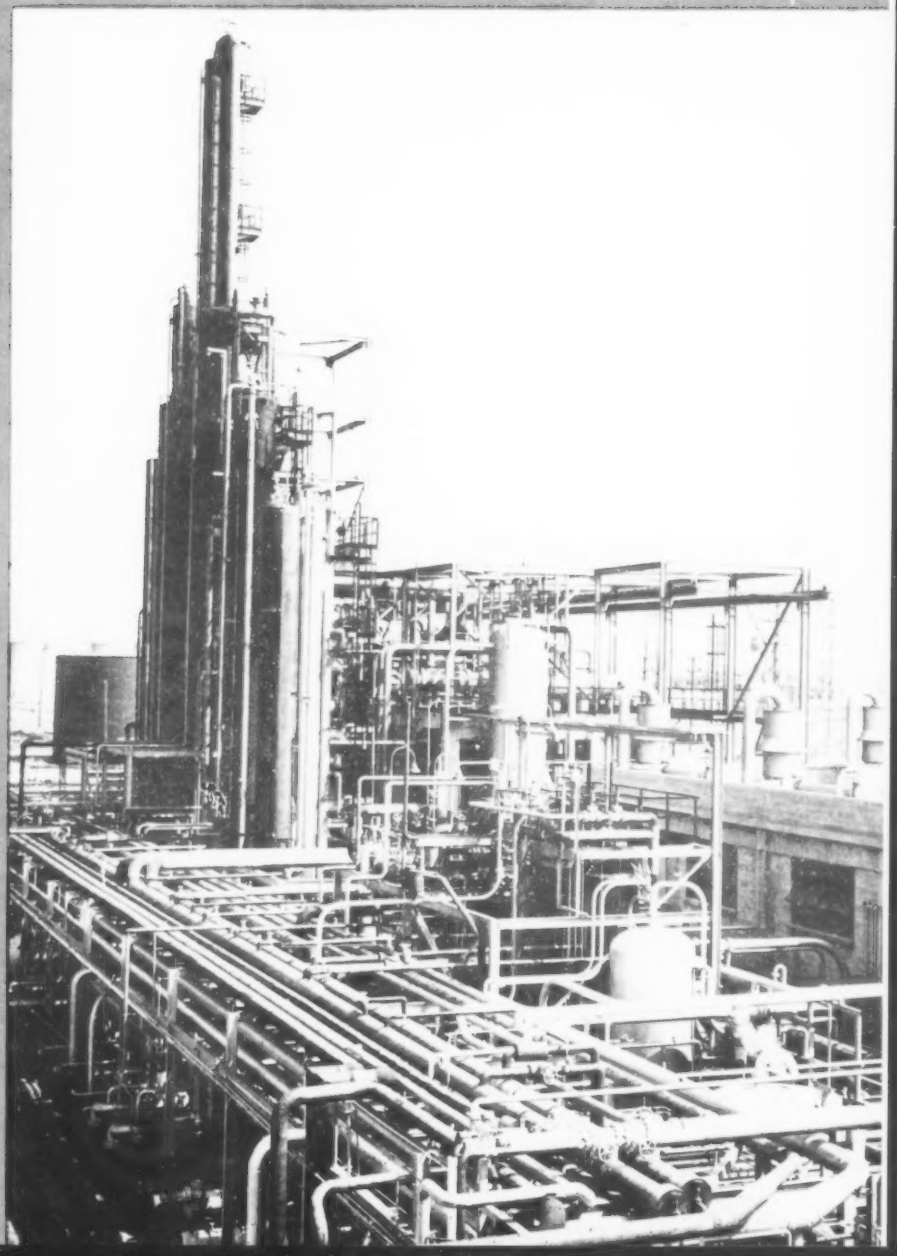

Semet-Solvay Petrochemical Division plant at Buffalo, N.Y., where low molecular weight emulsifiable polyethylene for use in waxes and polishes is produced. Property changes imparted to polishes by addition of polyethylene are discussed in article beginning on page 77.

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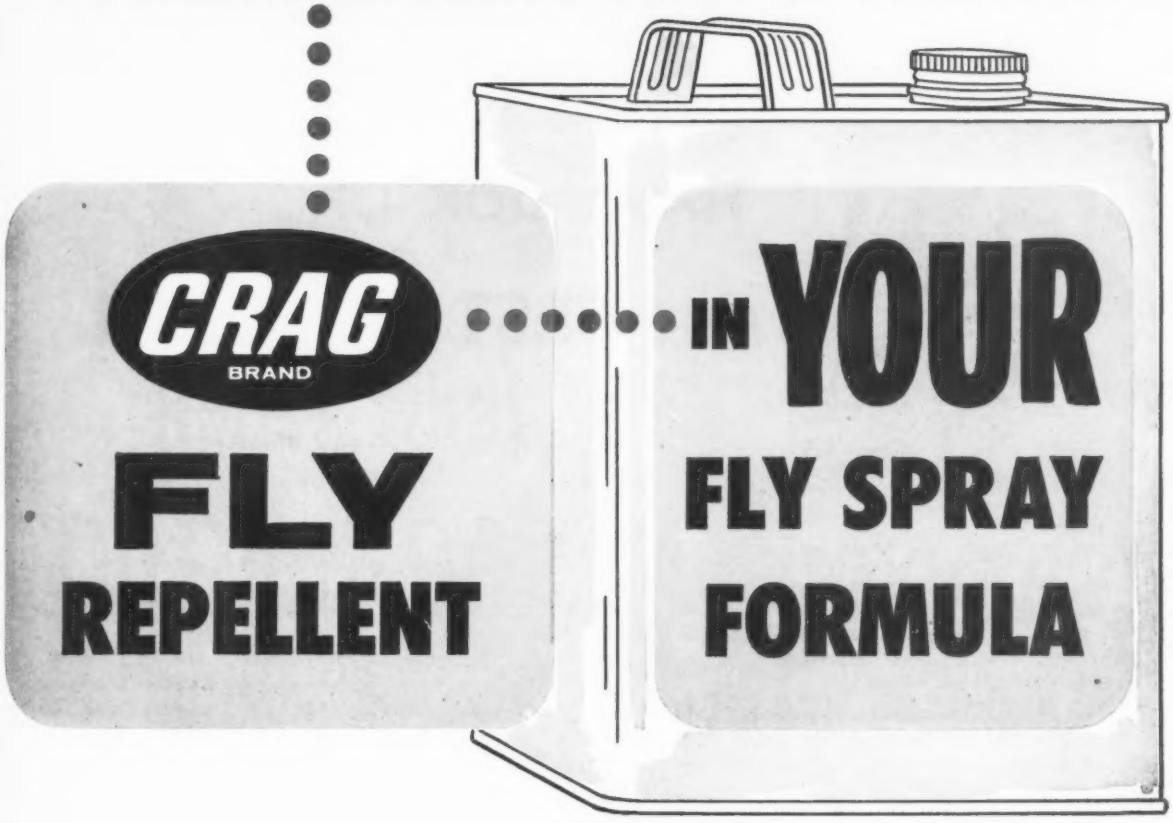

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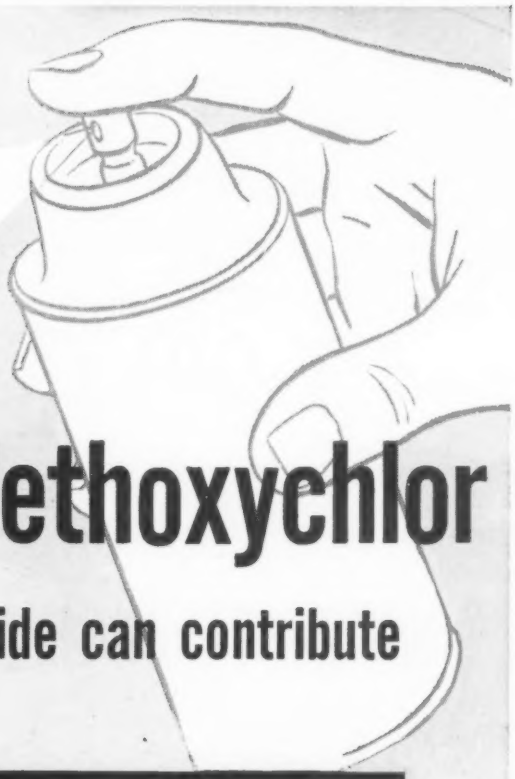

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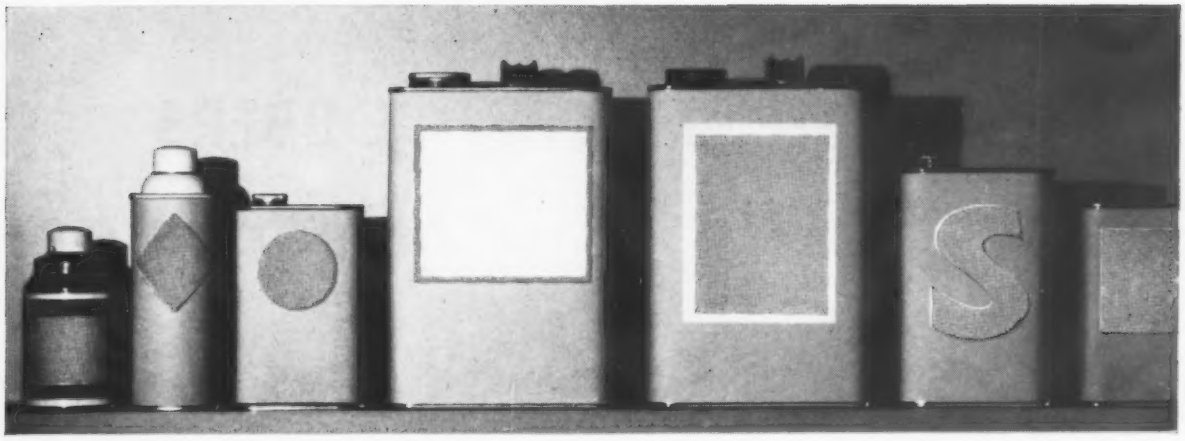

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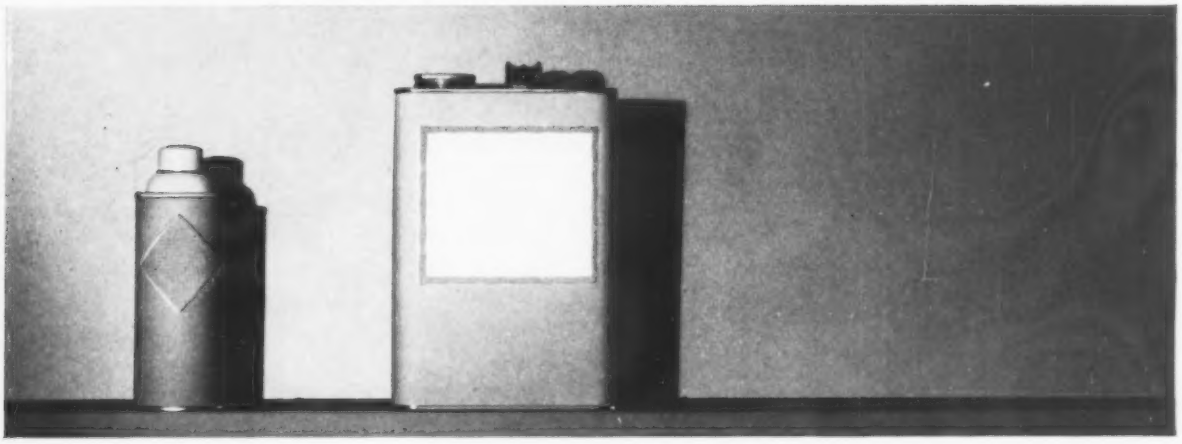

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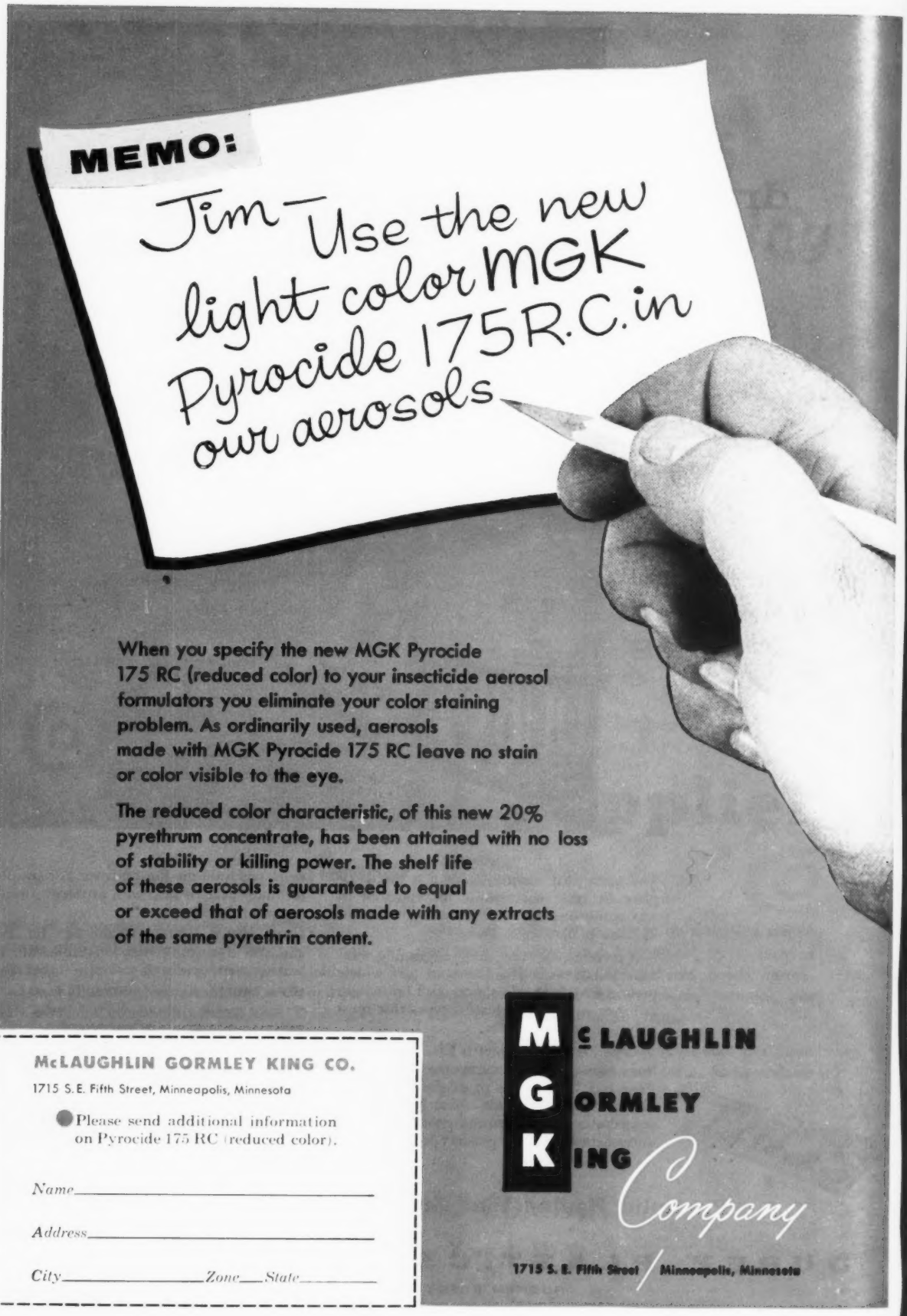

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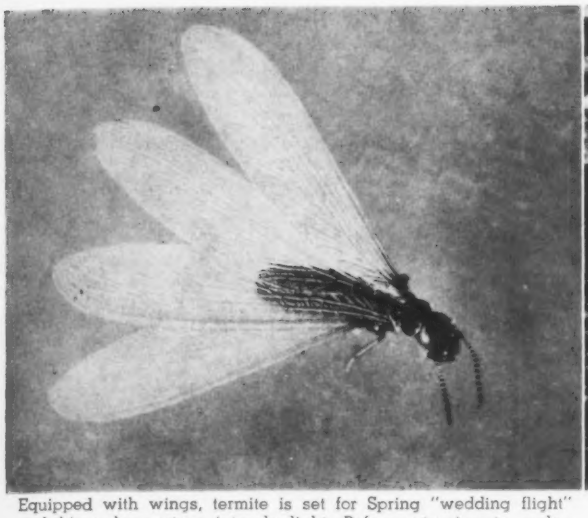

Equipped with wings, termite is set for Spring "wedding flight" and his only venture into daylight. Before returning to underground colony, termite sheds his wings. These tell-tale pieces of evidence indicate that termites are present in a structure.

Photo courtesy A. Devaney, Inc., New York

Termites, as in colony shown above, chew tunnels through earth in their search for wood. With such tunnels the insects explore the concrete foundations of a building looking for cracks by which they can tunnel upwards to the wooden portion of structure.

Chemicals in Termite Control

Preconstruction soil treatment using water emulsion chemicals is answer to termite problems in wooden structures

By Ralph E. Heal*,
National Pest Control Association
Elizabeth, N. J.

THE problem of protecting homes from termite attack has assumed great significance in most regions of the United States in recent years. In some northern areas this may be attributed, in part, to a northern spread of termite species in an abundance sufficient to make them a problem in homes. In other areas the increase may be attributed to changes in the behavior and desires of man.

An important factor is the increasing tendency for man to place his home in the natural habitat of the termites – in the woodland areas. It has become a common sight in recent years to see wooded areas bulldozed to treeless tracts, with not only stumps but whole trees buried with existing termite colonies, and to see the mushroom growth of housing developments on these same tracts. In many cases, one could almost guarantee the new homeowner his private existing termite colony beneath his home.

Another important factor has been the popular acceptance of a new architectural design – the slab-on-ground home – with or without the warming "termite blanket" of a radiant-heat system in the slab. With our older or "conventional" construction, the basement house was common in northern areas, and the crawl-space house in the south. Either of these, provided an element of distance between the termite colony in the soil and the wood of the dwelling structure. This space between soil and structural wood was a natural deterrent to the passage of termites, although many features of such construction did provide numerous avenues of entry. This distance also permitted a certain degree of freedom in observation, and in treatment or correction of these avenues of entry. In the more recently popular slab-on-ground house, however, the structural wood has been placed in closer proximity to the termite colony, direct avenues of entry have been increased many-fold, and the opportunities for observation, treatment or correction of them have been greatly reduced.

Supposedly nothing is built as well now as in the "good old days." Whether or not this is true as a generality is questionable, but

* Presented during 43rd midyear meeting, Chemical Specialties Manufacturers Association, Drake Hotel, Chicago, May 21, 1957.

there is rather general agreement that many features of modern construction practice have provided unprecedented opportunities for termite entry into many homes. Certainly, the mass production methods of many developments, with independent, specialized crews following one upon the other, are not conducive to the perfection of workmanship that will provide a structure capable of turning back the probings of termites in search of food.

In many areas, the termite problem has expanded so that mortgage holders and agencies which guarantee loans on homes are insisting on termite inspections and clearances on all their real estate transfers. The incidence of termite attack in recently constructed homes similarly has increased to the point that there is a generally recognized demand for better protection of our new construction from termite attack. It is in this field that chemicals as protective soil toxicants are finding an expanding and important role.

Structural Protection

THE importance of protection against termites has long been recognized by the Federal Housing Administration, the major loan-guaranteeing agency for home construction. The Minimum Property Requirements which F.H.A. has prescribed for dwelling construction in the past have included measures for protection against termite attack. They were routine requirements in many areas. In other regions they could be required by the Chief Underwriters, where the incidence of termites indicated the need.

In addition to certain stipulations for clearance between any wood construction and ground, these previous M.P.R.'s recognized four methods of protection, one or more of which could also be required.

1. Poured concrete foundations
2. Masonry unit foundations capped with reinforced concrete
3. Metal shields
4. Wood preservative treatment (for the protection of the treated members only).

Wood infested with termites looks solid to the eye but crumbles to the touch. Subterranean termites eat through heart of lumber and rarely break through surfaced crust.
Photo courtesy E. L. Bruce Co.

Each of these, properly installed, was of value in deterring termite attack on basement or crawl-space construction. Each had limitations. Properly constructed foundations were effective barriers in that they exposed termite activity, but the termites could build tubes over their surfaces to reach the structural wood. Thus, regular inspection was necessary to detect termite entry. Without regular inspection, termites could do significant damage in spite of the presence of such foundations. Metal shields were theoretically and experimentally effective, but their practical value was very low because of faulty or inadequate installations, inadequate maintenance, and a not uncommon habit of termites of doing what they are not supposed to do – build tubes over a shield.

Pressure treated wood is ordinarily used only for foundation framing. It is highly effective in deterring termites and decay in the treated members, but offers very little protection from termites to adjacent untreated timbers, finish wood or furnishings.

In the slab-on-ground house, the value of the first three methods of protection disappears. The inside of the foundation wall is not accessible for inspection. The shield becomes impractical. Shielding of the foundation wall in slab construction still leaves the full central area of the slab in direct contact with soil. The inevitable cracks, the expansion joints and the utility entrances are common avenues of entry. Carelessness or unwitting flaws in workmanship often provide termites with ready access to well-designed structures.

Chemical Soil Barrier

FACED with practical difficulties in protecting "conventional" construction from termite attack, and with an almost impossible situation in slab-on-ground construction, F.H.A. has diligently sought other means of providing the homeowner with a structure not readily susceptible to termite invasion. The most promising solution appears to lie in the use of chemical toxicants to establish a termite-impervious barrier in the

soil beneath and immediately adjacent to the structure, a practice long established in the termite control industry in corrective work. After more than a year's exploration of the values of chemicals in the soil as built-in termite protection, F.H.A. combined the studies of protection against termites and against decay in an assignment under contract to the National Academy of Sciences—National Research Council. A special study was undertaken by the Building Research Advisory Board of the NAS-NRC, the results of which have been reported to F.H.A. and published in NAS-NRC Publication 448, "Protection Against Decay and Termites in Residential Construction," available from Publications Office, National Academy of Sciences, 2102 Constitution Avenue, Washington 25, D. C.

The special advisory committee, appointed by BRAB for this study, consisted of fifteen recognized authorities representing the fields of entomology, plant pathology, toxicology, wood technology, wood preservation, pest control, lumber manufacturing, architectural design, construction methods and vapor and moisture control. While the report of this committee covers many phases of the problems, the most significant contribution on termite control was the recognition of the value of soil treatments as built-in protection against termites. Soil treatment was given preferential recommendation for the protection of slab-on-ground construction against termite attack. It was also recognized as an acceptable alternate method of protecting basement and crawl-space construction against termites.

Committee's Findings

THE report of the committee gives chemicals, with concentrations, and rates and methods of application, recommended as acceptable from the standpoint of effectiveness. These recommendations were based on the knowledge pooled by the pest control industry, the manufacturers of chemicals, and the various state and federal research groups, chief among which was the Forest Service, U. S. Department of Agriculture. The pest control industry accepts these recommendations as being basically sound, and as representing long-overdue recognition of a termite control technique on which the industry has based much of its corrective work for many years.

No one chemical was given preferential recommendation in the report. All recommended treatments had met a five-year test under experimental conditions and most had been proved over at least the same period in practical use by the termite-control industry. Economics will exert a very strong influence in determining the treatment which will receive preferential acceptance, although several other factors, such as phytotoxicity and effect on moisture barriers will also be significant. As the recommended concentrations and rates of application are somewhat higher than those in common use in corrective termite work, it is believed that the protective effect will be retained directly for a minimum of ten years, possibly longer, and that the indirect effect of having kept termite colonies at bay for this period may provide several additional years of freedom from attack.

The chemicals and concentrations recommended in the report are:

Benzene Hexachloride (Technical): To be used at a concentration of 0.8 per cent gamma isomer, applied in oil solution or water emulsion.

Chlordane: To be used at a concentration of one per cent, applied in oil solution or water emulsion.

Dieldrin: To be used at a concentration of 0.5 per cent, applied in oil solution or water emulsion.

DDT: To be used at a concentration of eight per cent in oil solution.

Lindane: To be used at a concentration of 0.8 per cent in oil solution or water emulsion.

Sodium Arsenite: To be used at a concentration of 10 per cent, applied in water.

Trichlorobenzene: To be used at a concentration of one part trichlorobenzene to three parts oil.

The rates of application recommended are:

Slab-on-Ground.

a) Apply one gallon per 10 sq.

New home can be made termite proof for years using insecticides. They should be sprayed around and in the foundation during construction as shown above. This is least expensive time to termite-proof a home. *Photo courtesy Shell Chemical Corp.*

ft. as an over-all treatment ment under the slab, and under attached porches;

Over-all treatments applied to washed and ungraded gravel fills or fills of an absorbent material; i.e. cinders, should be increased by ½ gallon per 10 sq. ft. over that specified above.

b) Apply two gallons per five lin. ft. to critical areas under the slab, such as along the inside of foundation walls and around utility entrance and interior partition foundation walls;

c) Apply two gallons per five lin. ft. along the outside of the foundation.

Crawl-Space Houses.

a) Apply two gallons per five lin. ft. to critical areas under the house, such as along the inside of foundation walls, and around piers and utility entrances. Do not make an over-all treatment in the area;

b) Along the outside of foundation walls, including the part opposite entrance platforms, porches, etc., apply two gallons per five lin. ft. where the foundation is shallow and four gallons per five lin. ft. where the foundation is deep;

c) Apply one gallon per 10 sq. ft. of soil surface as an over-all treatment only where the attached porches, entrance platforms, utility entrances, etc., have covering slabs on fill or ground.

Basement Houses. Application to be the same as for crawl-space houses.

Voids of Unit Masonry Walls. All voids of unit masonry walls and piers to be treated with an application of one gallon per five lin. ft. applied from grade to footing.

These recommendations provide the basis for a practical commercial operation for built-in protection against termites. It is not a costly operation. For the average small home, less than 200 gallons of liquid are required. With the acceptance of water emulsions, the cost of chemicals has become a minor item. Major expenses are for labor, equipment, overhead, and the time inevitably lost through coordination of the treatment time to fit other construction steps. No construction permits treatment to be completed in one operation. A minimum of two trips is involved, and some construction schedules may require three.

Although there is considerable latitude of choice among chemicals in the recommendations, economic and practical considerations will limit most of the work to chlordane and dieldrin. These chemicals provide the less costly treatments. Both have a good record of use to date by the termite control industry. Neither presents a problem of phytotoxicity or of a recognized incompatibility with construction materials. The materials that are carried in oil are not competitive in price, a factor which will eliminate DDT and trichlorobenzene from consideration in most of the work. Sodium arsenite, long recognized as one of our better termite toxicants, is recognized equally well as being highly toxic to plant life. Its use will be quite restricted by this property.

Good Future for Chemicals

THE future of soil treating as a built-in termite protection looks favorable at the present time. The Forest Service, U. S. Department of Agriculture, has issued Occasional Paper 152, "Soil Poisons for Subterranean Termite Control" by H. R. Johnston, in which the principle of preventive treatment with soil poisons is endorsed. The chemicals, concentrations, and rates of application recommended in this paper are equivalent to those recommended to F.H.A. in the BRAB report. By soil treatment, an effective barrier can be placed under slab-on-ground construction. No other practicable termite protective measure for slab construction has been developed to date. Soil treatment has advantages for "conventional" construction as well. The barrier of termite toxicant is established at and below grade level in most situations. This barrier stops the termites farther away from the structural wood than any of the mechanical barriers suggested by the BRAB report as alternates. Periodic inspection for termites is a wise precaution with any structure, but the experience of the termite control industry indicates that failure to inspect will present less of a hazard with soil treatment than with the other recommended protective measures.

Soil treatment is recognized as sound termite protection by many architects and builders throughout the country and is being used with constantly increasing frequency on privately financed developments. Approval for its use is being requested by local F.H.A. offices. It is being required as a protective measure on many public construction projects as schools and hospitals and applied in several areas by the Army, Navy and Air Force.

The future of soil treatment in F.H.A. standards remains obscure. The old M.P.R.'s are currently under revision to be replaced by the new Minimum Property Standards. Possibly the recommendations of the BRAB report will be accepted and incorporated. No definite assurance of this is yet available from F.H.A. The protective value of a properly applied soil treatment does not appear to be questioned by F.H.A. The agency's concern appears to center itself on how to make sure that the treatment meets specifications. Apparently current F.H.A. inspection procedures are not geared to provide this assurance and the agency had been hopeful of industry providing a policing procedure. However, the policing powers of associations being somewhat restricted, the National Pest Control Association has not been able, as yet, to provide a satisfactory solution to the problem. Certainly F.H.A. will

(*Turn to Page* 109)

AEROSOLS

Past, Present and Future

Part II

THE two papers which appear on this and following pages were presented as part of a symposium commemorating the tenth anniversary of low pressure aerosols. The symposium was presented at a joint meeting of the Insecticide and Aerosol Divisions during the 43rd midyear meeting of the Chemical Specialties Manufactures Assn.

Aerosol Filling

By J. H. Fredette
American Can Co.

AEROSOL Filling – 1947 – Present – Future. It's an interesting subject. It is not very difficult to discuss the present. 1947 is not very hard either, as long as we are still fortunate enough to be able to call upon the memories of those who can boast of being active in this field for 10 straight years. The future is another matter. It involves some forecasting.

In recent years, we have heard a lot about forecasting. It occupies an increasingly important spot in today's business considerations. Men who are charged with forecasting trends in their own businesses often find themselves enjoying the precarious position of sitting out on the end of a limb. When they engage in forecasting, they examine their crystal ball very carefully under the whitest, brightest light they can find.

Fortunately for me, aerosol filling is not my primary field. Thus, I can look at the crystal ball a little less tensely and under a right with a rosy glow. It gives me the opportunity to share with you my unbounded enthusiasm for the future of aerosols.

The study of aerosol filling – 1947 – Present and Future requires consideration of three factors common to all things which grow and mature as a result of conscious, considered planning.

The first is – selection of a goal.

The second is – selection of a motivating force or power to move you in the direction of the goal.

The third is – selection of a path to follow toward the goal.

In aerosol filling, these three factors are easily determined.

The goal is – increased business and profits.

The motivating force or power is – reliable knowledge of the existence of large volume potential markets.

The path to follow is – automation.

Little need be said about the goal itself. I'm sure it's in the forefront of all of our minds.

The motivating force or power must be selected carefully. The initial determination that a desirable market does exist is accomplished only through hard work, use of imagination and good judgment. Most important, and vitally so, is the fact that this hard earned knowledge must be rechecked and re-evaluated at each step along the path in the light of the capital investment required to take that step.

The path to follow – automation – is a dual highway stretching on ahead with a variety of road blocks and bottlenecks slowing down the rate of travel.

Of the two lanes – one is higher speed, larger volume, more automatic operating equipment.

The other is – more efficient, more automatic materials handling methods.

The road blocks and bottlenecks are – equipment design life, costs and resultant amortization periods, the determination of which operations to automate at any specific time to achieve the best results, and the limitations imposed by plant layout.

In the aerosol filling picture of 1947, confirmation of the existence of large potential markets was difficult to obtain. Hence, capital investment in operating equipment and materials handling methods was cautiously made. Most operations were performed manually or, at best, semi-automatically. Line speeds did not exceed 30 units per minute. This meant low output – high labor costs.

As the years passed, it became easier to confirm the existence of the potential markets. Capital investment became easier to justify. So, today we have lines with many operations performed automatically. There are, however, still a sufficient number of operations performed manually or semi-automatically, to be singled out for future improvement. Line speeds today range from 60 units per minute up to 150 units per minute. Output has increased, labor cost has diminished.

If we correctly interpret what we can see in the crystal ball under

the rose colored light, the future should reveal potential markets which can be readily confirmed. This knowledge, in turn, should release the capital investment funds needed to travel the dual highway of automation.

In 1947, propellant was received in ton tanks, unloaded, put into storage, then hooked up to the line, all pretty much by hand. Product - propellant mix was accomplished in a proportioneering machine. It then went through a heat exchanger to the filler. Cans were received, put into storage and brought out to the line manually. They were filled semi-automatically, either singly or a few at a time. Valves were inserted by hand. Cans then moved to the seamer or clincher which handled them semi-automatically. Next, through the hot water bath, dryer and sometimes a labeller. Buttons and overcaps were put on by hand and they were packed in cartons which were sealed and stacked all manually. As you can see, a large amount of labor was required to achieve the maximum output, which, even then, was low.

Today, propellant is received in either tank cars or tank trucks, transferred into storage tanks and fed into the line automatically. Product-propellant mix is accomplished by metering in the lines to the filler and is refrigerated there. Cans are still received, put into storage and brought out to the filling line manually. They are conveyed to the filler and loaded automatically. Valves are still inserted by hand, although there is now available some semi-automatic equipment to do this job. Next, they are conveyed to the seamer or clincher, which operates automatically, through the hot water bath, dryer and sometimes a labeller. Buttons and overcaps are still applied by hand. Packing, sealing and stacking are still manual operations, though I understand one or two companies have now gotten automatic packers. This type of line operation represents considerable progress. It can operate at double or triple the speed of 1947. The labor required is considerably less, although many manual operations are still performed.

The future, in the crystal ball, shows a line operating something like this – propellant will be received and handled much as it is today, quite automatically. Product-propellant mix will be processed and supplied to the filler automatically as it is today. Cans will be received, jumble packed in large cartons, unloaded and fed to the filling line automatically. An unscrambler will set them right end up on the conveyor. They will pass through the filler, through an automatic valve inserter, to a seamer or crimper, then through the hot water bath and dryer. Buttons and overcaps will be applied automatically. They will be packed, sealed and stacked on pallets by an automatic packer. This kind of line will operate at speeds in excess of 300 units per minute with a minimum of labor required.

This, then, is the picture we can see in the crystal ball under the rose colored light. Other industries have travelled this same path. The petroleum industry with canned motor oil, the chemical industry with canned anti-freeze. The brewing industry – now packing at the fabulous rate of 500 to 600 units per minute. If any of you find the opportunity to take advantage of one of the large brewer's public relations offer of a conducted tour through their plant, I heartily recommend you do so. The future will be before your eyes.

The cost of the best equipment and of the installation of the best materials handling methods is high, but as the knowledge of the potential markets becomes confirmed you will find the cost justified by the resulting ability to supply those markets on a sound, profitable basis.

The rate of growth of aerosol filling will be governed by the confidence in the future and the know-how of you who have grown with it. More automatic operation is ahead. If you follow the trend, the day will come when push-button packages are produced by push-button methods.

Aerosol Marketing

By Stuart Watson

McCann-Erickson Advertising Agency, New York

IT would seem to me the time is right for the aerosol producer to take stock of himself from a marketing viewpoint. I believe guide posts for future growth and prosperity are needed. The history of aerosol sales from 1947 to present is known to all of us. These are growth products, particularly if you think of the aerosol market as a whole. But, as has been stated many times, in an exact sense, there is no aerosol market, as such. Instead, there is an aerosol insecticide market, an aerosol room deodorant, an aerosol hair lacquer market, and many others.

Each is in a different stage of growth and development, and each presents different marketing problems and opportunities. And one of the first and most important things the aerosol marketer should do is to recognize the fundamental differences involved in marketing various aerosol products. This need has been well illustrated in the past two years. One company has emerged as the leader in the aerosol space deodorant field, while the same company has failed and withdrawn from another segment of the aerosol field; namely, insecticide.

If we can think of aerosols in terms of various end markets, many of which are only in their infancy, I believe we can avoid

some of the unfortunate marketing situations of the first decade of pressure packages. Because aerosol insecticides are the oldest products packaged in aerosol form, I thought it best to discuss aerosol marketing in terms of them.

From the early days of the Bridgeport bomb to the 79¢ specials at your neighborhood drug stores on August First, is a long road – and a lot can be learned from a marketing viewpoint by studying this oldest segment of the business. Unfortunately, I suspect aerosol sellers have lacked a marketing viewpoint for most of the life-time of these products. This is understandable because aerosol insecticide selling for most of the decade has been dominated by companies who were selling a bomb at a price rather than building a consumer franchise or a product image. But, before I pursue this controversial subject, may I explain what I mean by a marketing viewpoint.

Marketing Viewpoint

IN all industry today, much is being said about the marketing viewpoint, marketing orientation, and the like, and because I think aerosols are in need of marketing orientation, it might be of some help if I were to give a point of view of what marketing orientation means to a business. To me, it is made up of at least four things:

First, it is a state of mind – a willingness of the business management of a company to approach product development, product planning – the whole business of getting a product to market from the customer's point of view, carefully documented by facts.

Second, it is a resolve to try new ways to attack marketing problems; that is, a willingness to break away from historical marketing patterns that in many instances are outdated, wasteful and inefficient.

Third, it is mature judgment that sees the different components of a total marketing plan in perspective, particularly:

(a) The *product* of the company – recognizing its strengths and its competitive weaknesses.

(b) The *market* – having it carefully defined and a target or objective set.

(c) *Distribution* – knowing the kinds and extent of distribution of the product.

(d) *Competition* – knowing and respecting competitors' strengths and weaknesses.

(e) *Pricing and discounts* – appreciating their effect on other parts of the marketing plan.

(f) The *advertising plan* – resolving to stick with the program and not cut it back or change it before it has had a chance to even start to be effective.

(g) *Promotional plan* – realizing the importance of developing a totally integrated advertising and promotional plan.

(h) Volume estimates, *profit and loss objectives* – setting goods and profit objectives that are obtainable on a planned basis.

Fourth, and finally, the marketing viewpoint reflects the integrity of the company – the desire to build and strengthen a product franchise, in good taste. If you will accept these criteria as essential to a marketing viewpoint, we can evaluate the first decade of aerosol insecticide marketing and indicate some guide posts for the future growth and progress of all aerosol products.

Aerosols, and particularly the insecticide segment, provide a wealth of marketing information that should point the way to profitable growth. To illustrate – marketing sources report over 2,000 aerosol and liquid insecticide brands are being sold today. About 400 are aerosol brands. Of course, this does not include various sizes of the different brands. One interesting experiment I would suggest to you is a line-up of as many of these aerosol insecticide labels as you can collect. I believe you would quickly conclude, as I have, that aerosol insecticides represent about the most unimaginative labeling of any consumer product on the market. And yet, the possibilities are limitless. A study of the package is a first step toward the marketing orientation of your product. If you were to analyze the cost of a 12 ounce aerosol bomb, the package and label would be one of the largest expenses and, yet, we seem to have failed to give the consumer memorable design or readable copy that would make it easy to buy and use our product.

Another challenging way to look at these 400 brands of aerosol insecticide might be for us to ask ourselves –

"Why hasn't a market leader emerged from this array?"

"Why is it that no one aerosol insecticide brand has as much as 15 per cent of the market?"

"Is this typical of other specialty package goods products?"

"Is this the way to build a profitable business?"

To answer these kinds of questions requires careful introspection. In my opinion, brand identification and marketing leadership haven't emerged because we have not built our business on good marketing concepts. Too much of our money and time has been spent selling a gadget at a price – long past the time when this was a profitable idea. Too little of our time and effort has been directed to presenting our respective products' competitive advantages to build a consumer franchise and brand identity.

Is this typical of other specialty goods products? I think not.

Is this the way to build a profitable business? I think not.

In the market place, by 1955 among wholesalers and retailers alike the insecticide business was a shambles. The attitude of professional buyers was well illustrated by one major chain store buyer's statement to me that he had decided to reject all the crazy deals, including consignment of products, special trade allowances, cooperative advertising, Cadillacs, and trips to Bermuda. It was his intention to buy insecticides as he would buy the other chemical specialty prod-

(*Turn to Page* 107)

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NOTE THESE PETRONAUBA H SPECIFICATIONS

Melting Point	195° F. Min.
Penetration @ 77° F.	1/3
Color	Yellow (4 NPA Max.)
Acid Number	15/25
Saponification Number	50/60
Viscosity @ 210° F.	175 max.

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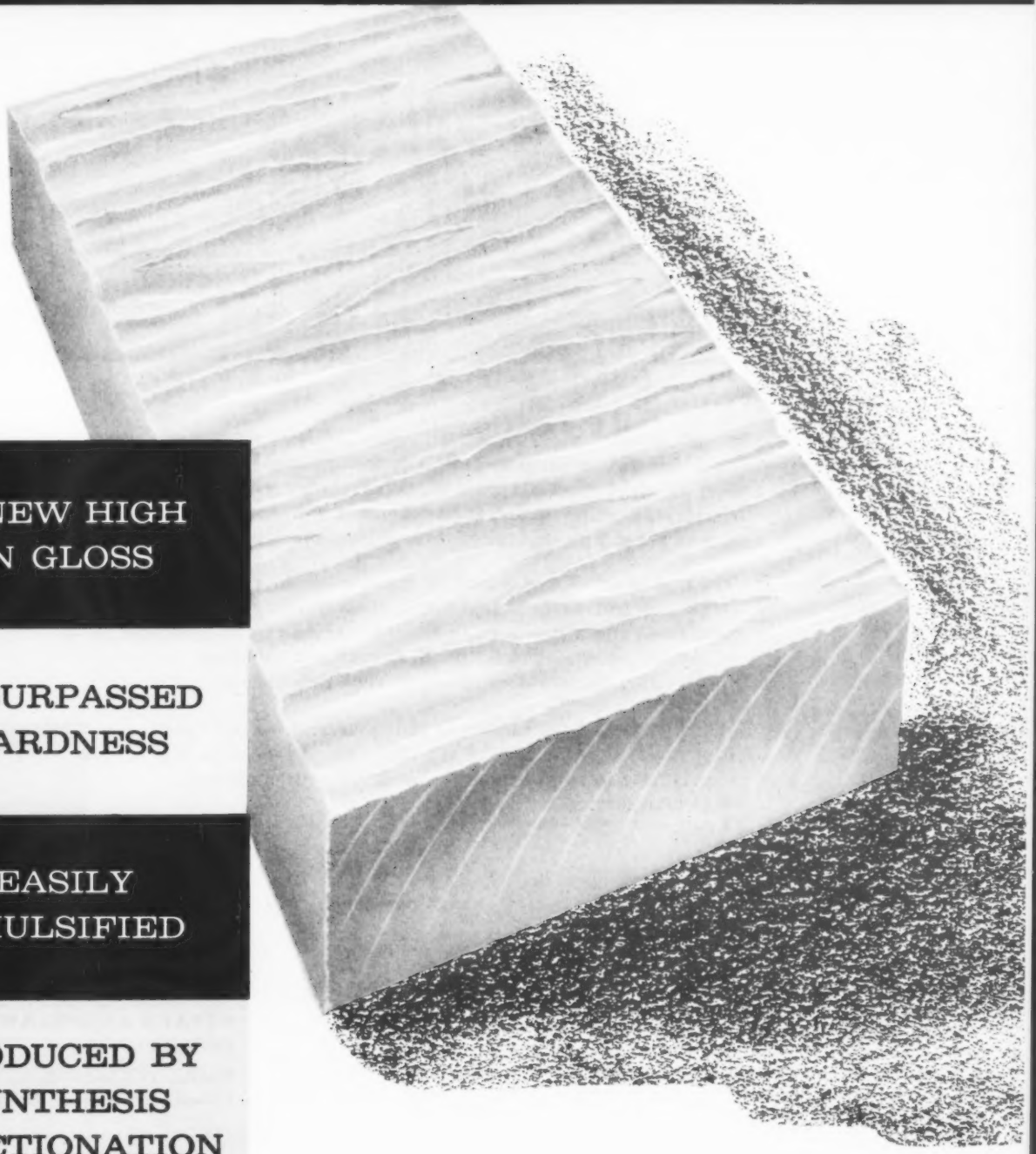
...a new emulsifiable WAX for floor polishes



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Property changes of

Emulsion Floor Polishes

A study of property changes imparted to industrial and household emulsion polishes by the addition of low molecular weight emulsifiable polyethylene.

By Robert Rosenbaum, Ralph Bock and Robert E. Clark*

Semet-Solvay Petrochemical Division,
Allied Chemical & Dye Corp.

LOW molecular weight emulsifiable polyethylene is an ingredient that can be used and should be used to get certain desired properties, such as slip resistance, water resistance, buffability and increased traffic wear in all types of emulsion floor polishes. The work in the present paper is from our technical service laboratory in Buffalo.

For the test program described in this paper, commercial polishes were bought in the local stores in the Buffalo area and for the purposes of this paper are labeled A through F.

"A" is a hard, high resin, household polish.

"B" is a high wax, soft, household polish.

"C" is a high wax, hard, household polish.

"D" is a high wax, hard,

* Paper presented during 43rd midyear meeting, Chemical Specialties Manufacturers Assn., Chicago, May 21, 1957.

Table 1

Typical Properties

Melting point °F.*	213-221°F.
Penetration (100g., 5 sec., 77°F.)	3-6
Acid number	14-17
Color, NPA	Less Than 1

*ASTM E28-51T

Table 2

GLOSS

	Vinyl Tile Hours		Vinyl Tile Days						Rubber Tile Hours		Rubber Tile Days					
Polish	**2**	**5**	**1**	**4**	**7**	**14**	**21**	**28**	**2**	**5**	**1**	**4**	**7**	**14**	**21**	**28**
Polish "A"	55	53	48	52	52	50	46	45	75	82	77	80	81	80	78	79
+10%	52	50	50	51	51	49	49	45	74	79	78	71	75	77	75	68
+20%	49	49	49	48	48	47	50	47	74	73	71	74	74	73	70	65
+30%	55	51	50	48	51	48	50	47	75	74	72	72	74	73	67	66
Polish "B"	37	36	36	36	36	36	34	33	34	38	37	37	38	35	35	33
+10%	36	35	37	37	36	33	35	34	29	39	36	37	36	34	32	32
+20%	41	41	39	41	38	39	38	33	33	38	38	41	38	37	40	26
+30%	35	36	32	34	37	34	32	32	42	37	39	33	37	33	37	21
Polish "C"	50	55	51	53	51	52	51	44	53	63	59	61	57	61	58	55
+10%	51	52	50	51	49	50	51	44	57	56	57	56	54	55	58	54
+20%	46	44	46	44	44	44	44	38	68	68	65	66	62	68	66	62
+30%	52	53	48	54	47	48	45	44	60	57	57	56	53	58	54	49
Polish "D"	50	52	51	52	55	54	53	44	81	82	76	78	76	72	73	78
+10%	54	51	51	53	49	49	46	43	77	76	81	70	67	69	72	68
+20%	55	56	54	52	52	47	46	40	67	72	73	75	76	71	70	71
+30%	55	55	57	54	52	52	49	43	78	79	80	74	74	72	72	74
Polish "E"	54	52	50	51	52	50	49	47	83	73	68	74	71	79	79	71
+10%	51	53	53	52	52	50	49	49	77	81	81	77	79	78	78	76
+20%	45	48	47	48	49	46	46	44	71	72	78	76	76	69	69	62
+30%	51	50	49	48	48	47	47	43	78	67	72	79	73	70	80	75
Polish "F"	55	55	56	54	55	54	54	50	81	79	80	80	80	80	76	76
+10%	57	54	55	55	54	54	54	53	80	77	73	75	72	72	73	72
+20%	47	47	45	50	47	45	45	41	82	85	77	84	84	79	79	67
+30%	42	43	42	44	43	40	39	39	80	73	67	75	75	75	75	70

Table 3

AVERAGE GLOSS

	Vinyl Tile							Rubber Tile						
	Hours		Days					Hours		Days				
Commercial Polishes	**2**	**5**	**1**	**7**	**14**	**28**	**Avg.**	**2**	**5**	**1**	**7**	**14**	**28**	**Avg.**
+10% Low Molecular Weight Emulsion	50	49	49	49	48	45	48	66	68	68	64	64	62	65
+20% Low Molecular Weight Emulsion	47	48	47	46	45	41	46	66	68	67	68	66	59	66
+30% Low Molecular Weight Emulsion	48	48	46	46	45	41	46	69	65	65	64	64	59	64
Commercial Average	50	51	49	50	49	44	49	68	70	66	67	68	65	67

industrial polish.

"E" is a buffing, household polish.

"F" is a non-buffing, household polish.

These polishes are made by various concerns that have nationwide distribution and are available in any area. These tested polishes were chosen as being representative of the majority of water emulsion polishes used in the United States.

Low molecular weight emulsifiable polyethylene was made into a 12 per cent solids emulsion using the formulation below. Table 1 shows the typical properties of the polyethylene used in these tests.

Material	**Parts**
Resin	40
Oleic acid	7
Morpholine	6
Water (Sufficient to make 12 per cent solids)	

In a previous paper the technique used to make this emulsion was described in detail and is commonly known as the "wax to water" method.

10, 20 and 30 per cent by volume of this 12 per cent solids emulsion was added to test polishes. No attempt was made to balance the formulations. No additional leveling agent or resin was added. The results from these tests are amazing.

Three different tiles were tested: rubber tile, vinyl tile and linoleum. Panels, three feet on a side, or nine square feet in area, were used. These test panels were moved in a definite pattern to various locations in the laboratory and could be washed, tested, rotated and otherwise handled to make the tests as uniform and reproducible as possible.

A test panel of four men was formed to report visual observations. These men were trained to observe and to report objectively. All tests were coded so that none of the panel doing the reporting was aware of which polish he was grading.

Those who are commercially marketing polishes incorporating low molecular weight emulsifiable polyethylene confirmed that the gloss is maintained when the formula is properly balanced. Gloss tests were run on both rubber and vinyl tile with all the commercial polishes.

Table 2 shows the volume of tests run. Each figure reported is the average of at least five readings. Table 3 shows a consolidation

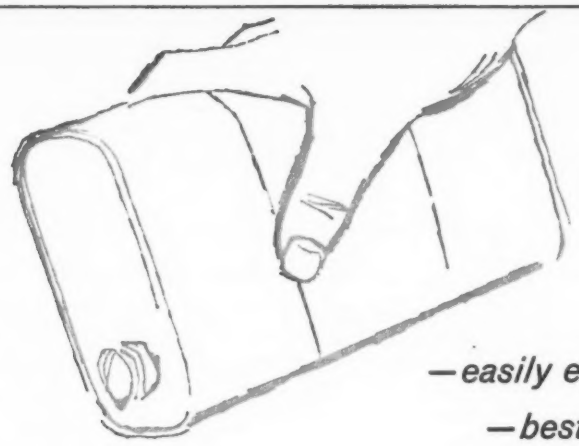
(*Turn to Page 87*)

Table 4

Polish	**Emulsion Stability 3 Cycles Freezing**	
	Fast	**Slow**
Polish "A"	OK	OK
+10% Low Molecular Weight Emulsion	OK	OK
+20% Low Molecular Weight Emulsion	Fair	Fair
+30% Low Molecular Weight Emulsion	Broke	Broke
Polish "B"	OK	OK
+10% Low Molecular Weight Emulsion	OK	OK
+20% Low Molecular Weight Emulsion	OK	OK
+30% Low Molecular Weight Emulsion	OK	OK
Polish "C"	OK	OK
+10% Low Molecular Weight Emulsion	OK	OK
+20% Low Molecular Weight Emulsion	OK	OK
+30% Low Molecular Weight Emulsion	OK	OK
Polish "D"	OK	OK
+10% Low Molecular Weight Emulsion	OK	OK
+20% Low Molecular Weight Emulsion	OK	OK
+30% Low Molecular Weight Emulsion	OK	OK
Polish "E"	OK	OK
+10% Low Molecular Weight Emulsion	Broke	Grain
+20% Low Molecular Weight Emulsion	Broke	Slight Sep.
+30% Low Molecular Weight Emulsion	Broke	Broke
Polish "F"	OK	OK
+10% Low Molecular Weight Emulsion	OK	OK
+20% Low Molecular Weight Emulsion	Broke	Broke
+30% Low Molecular Weight Emulsion	Broke	Broke

Table 5

Polish	**Slip °F. Grams**	
	73°	**83°**
Polish "A"	125	77
+10% Low Molecular Weight Emulsion	119	105
+20% Low Molecular Weight Emulsion	115	85
+30% Low Molecular Weight Emulsion	102	108
Polish "B"	107	125
+10% Low Molecular Weight Emulsion	113	142
+20% Low Molecular Weight Emulsion	112	115
+30% Low Molecular Weight Emulsion	112	150
Polish "C"	108	85
+10% Low Molecular Weight Emulsion	106	74
+20% Low Molecular Weight Emulsion	102	91
+30% Low Molecular Weight Emulsion	105	106
Polish "D"	128	143
+10% Low Molecular Weight Emulsion	125	156
+20% Low Molecular Weight Emulsion	148	134
+30% Low Molecular Weight Emulsion	139	162
Polish "E"	98	87
+10% Low Molecular Weight Emulsion	105	133
+20% Low Molecular Weight Emulsion	112	138
+30% Low Molecular Weight Emulsion	109	133
Polish "F"	109	88
+10% Low Molecular Weight Emulsion	99	93
+20% Low Molecular Weight Emulsion	99	108
+30% Low Molecular Weight Emulsion	112	109



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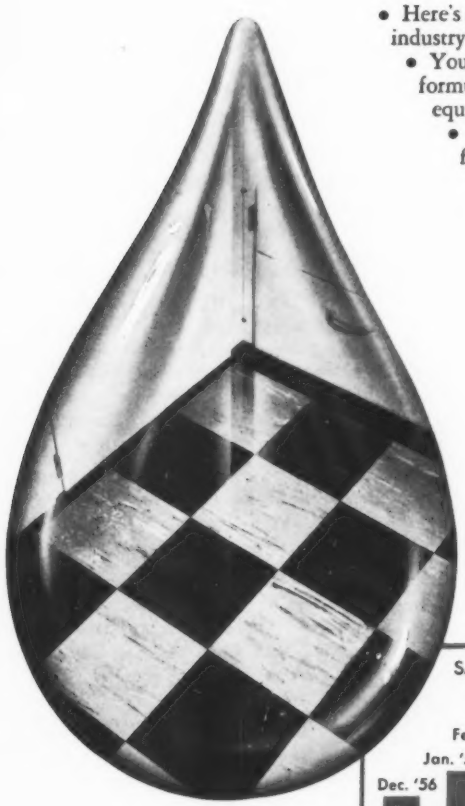

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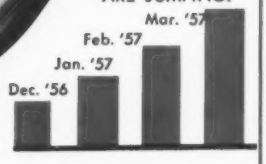

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Aerosol Awards...

The sixth annual AEROSOL AWARDS will be made
in conjunction with the 44th Annual Meeting of the

CHEMICAL SPECIALTIES MANUFACTURERS ASSOCIATION

HOLLYWOOD BEACH HOTEL, HOLLYWOOD, FLA.

DECEMBER 10, 1957

. . . to include judging and selecting of best aerosol packages of the year

The aerosol package competition and awards will be divided into ten classes as follows:

1. Insecticides, repellents, moth proofers.
2. Room deodorants.
3. Lacquers, enamels, other protective coatings; paint remover.
4. Other household products — polishes, glass cleaner, rug shampoo, water repellent, snow, etc.
5. Shave products.
6. Hair preparations.
7. Other personal products—shampoo, body deodorants, sun tan oil, etc.
8. Medicinal and pharmaceutical products.
9. Industrial products — lubricants, belt dressings, stencil inks, etc.
10. Glass and plastic packages — all products.

. . . a top award for "best in the show" will also be made

Rules of the contest:

1. All entries must be made in the name of the brand owner or marketer. All products entered must have been freely offered for sale on the open market.

2. Entries will close November 1, 1957. All entries should be sent as soon after Sept. 20 as possible to the Committee at the CSMA office, and should comprise one completely assembled empty container with attached tag showing (a) name and address of brand owner, (b) class in which entry is made.

3. Only one entry may be made by any marketer or brand owner in any one class, but entries may be made in as many classes as desired.

4. Products entered must be properly labeled in accordance with safety requirements and all laws and regulations pertinent to particular products.

5. Entries are open to any aerosol brand owner or marketer anywhere, and are not restricted to members of CSMA. There are no entry fees or other charges to entrants.

6. Best packages will be selected in ten classes and a "best package in the show" will be named. Judging will be done by a group of qualified experts. Their decisions will be final and will be announced and awards made at the 44th annual meeting of CSMA at Hollywood, Fla.

For entry blanks or information, write to

AEROSOL AWARDS COMMITTEE

Chemical Specialties Manufacturers Association

50 East 41st St., New York 17, N. Y.

Make Plans for Your Entries Now!

(*From Page* 84)

of this information, using all of the commercial polishes as the commercial average and the results of the added polyethylene emulsion averaged in to give the figure of the average. The accuracy of this test is subject to fluctuating voltages and also to the fact that readings were taken on slightly different spots. We thus conclude that within experimental errors the low molecular weight polyethylenes maintain the gloss of polishes.

Stability is always a major problem in formulating new polishes. You will recall that an emulsion made up of low molecular weight emulsifiable polyethylene, oleic acid and morpholine was added to the controls. Table 4 shows that in the freeze-thaw test the emulsion stability was perfect except with polish "E" when the low molecular weight polyethylene emulsion was added. This can be overcome by balancing the formulation. At the 20 per cent level B, C and D were stable. Polishes A, E and F did show some breaking. At the 30 per cent level the emulsion broke in 50 per cent of the cases. However, it is known from formulations with low molecular weight emulsifiable polyethylene that are being marketed, if balanced formulations are used, the stability is excellent.

Table 5 demonstrates slip resistance. Slip is reported as the grams necessary to drag a leather block of 175 grams weight and three square inches area over a coated tile. At 73°F. there is not much difference in the force required to pull the weight across the polished tile. The laboratory raised the temperature of the test to show greater differences than are given at 73°F. At the slightly higher temperature of 83°F. the addition of polyethylene increased the slip resistance considerably. This factor of slip resistance must be kept in mind when formulating polishes.

The addition of low molecular weight emulsifiable polyethylene improved the buffability of the test polishes. (See Table 6) The tests were run as follows:

Separate tiles were prepared in the usual manner.

Steel wool was used to scratch the film.

The tile was buffed and rated by the ease of buffing out the scratches.

Operators checked each other very closely.

The tests are rated (1) easily buffed through (4) very difficult to buff.

In water resistance the test polishes A, B and F (in Table 7) were definitely improved by the addition of the low molecular weight emulsifiable polyethylene. The other commercial polishes showed no changes.

The water resistance test was performed as follows:

Panels of tile are stripped of old polish, rinsed in clear water and dried.

The tile is coated with the test polish in the prescribed manner.

After the film is dried, for varying periods of time, distilled water is placed on the film. One hour later the remaining water is removed and the tile visually inspected for a ring or other disturbances of the film surface.

No attempt was made to assign a number to this test. The film is either marked or not marked.

Thus, when a figure is shown, such as 96, this means the film must dry 96 hours before the film does *not* show a mark from water standing on the film for one hour.

Table 6

Polish	Buffing
Polish "A"	4
+10% Low Molecular Weight Emulsion	1
+20% Low Molecular Weight Emulsion	3
+30% Low Molecular Weight Emulsion	2
Polish "B"	4
+10% Low Molecular Weight Emulsion	3
+20% Low Molecular Weight Emulsion	2
+30% Low Molecular Weight Emulsion	1
Polish "C"	4
+10% Low Molecular Weight Emulsion	1
+20% Low Molecular Weight Emulsion	3
+30% Low Molecular Weight Emulsion	2
Polish "D"	4
+10% Low Molecular Weight Emulsion	1
+20% Low Molecular Weight Emulsion	3
+30% Low Molecular Weight Emulsion	2
Polish "E"	4
+10% Low Molecular Weight Emulsion	1
+20% Low Molecular Weight Emulsion	2
+30% Low Molecular Weight Emulsion	3
Polish "F"	4
+10% Low Molecular Weight Emulsion	3
+20% Low Molecular Weight Emulsion	2
+30% Low Molecular Weight Emulsion	1

Table 7

Polish	Water Resist. Hours
Polish "A"	96
+10% Low Molecular Weight Emulsion	96
+20% Low Molecular Weight Emulsion	96
+30% Low Molecular Weight Emulsion	24
Polish "B"	96
+10% Low Molecular Weight Emulsion	96
+20% Low Molecular Weight Emulsion	24
+30% Low Molecular Weight Emulsion	24
Polish "C"	0
+10% Low Molecular Weight Emulsion	0
+20% Low Molecular Weight Emulsion	0
+30% Low Molecular Weight Emulsion	0
Polish "D"	0
+10% Low Molecular Weight Emulsion	0
+20% Low Molecular Weight Emulsion	0
+30% Low Molecular Weight Emulsion	1
Polish "E"	96
+10% Low Molecular Weight Emulsion	96
+20% Low Molecular Weight Emulsion	96
+30% Low Molecular Weight Emulsion	96
Polish "F"	96
+10% Low Molecular Weight Emulsion	24
+20% Low Molecular Weight Emulsion	24
+30% Low Molecular Weight Emulsion	2

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Table 8

Polish	Soiling
Polish "A"	1
+10% Low Molecular Weight Emulsion	4
+20% Low Molecular Weight Emulsion	2
+30% Low Molecular Weight Emulsion	3
Polish "B"	2
+10% Low Molecular Weight Emulsion	3
+20% Low Molecular Weight Emulsion	1
+30% Low Molecular Weight Emulsion	4
Polish "C"	1
+10% Low Molecular Weight Emulsion	2
+20% Low Molecular Weight Emulsion	4
+30% Low Molecular Weight Emulsion	3
Polish "D"	1
+10% Low Molecular Weight Emulsion	2
+20% Low Molecular Weight Emulsion	4
+30% Low Molecular Weight Emulsion	3
Polish "E"	4
+10% Low Molecular Weight Emulsion	1
+20% Low Molecular Weight Emulsion	3
+30% Low Molecular Weight Emulsion	2
Polish "F"	4
+10% Low Molecular Weight Emulsion	3
+20% Low Molecular Weight Emulsion	2
+30% Low Molecular Weight Emulsion	1

Table 9

Polish	Marring Inches Rub.	Leath.
Polish "A"	9	7
+10% Low Molecular Weight Emulsion	8.5	7
+20% Low Molecular Weight Emulsion	8	7
+30% Low Molecular Weight Emulsion	9	7.5
Polish "C"	4	5
+10% Low Molecular Weight Emulsion	4	6
+20% Low Molecular Weight Emulsion	4.5	6
+30% Low Molecular Weight Emulsion	5	6.5
Polish "D"	3	6.5
+10% Low Molecular Weight Emulsion	3	6
+20% Low Molecular Weight Emulsion	3	6
+30% Low Molecular Weight Emulsion	4	5
Polish "E"	5	5
+10% Low Molecular Weight Emulsion	5	7
+20% Low Molecular Weight Emulsion	4	6
+30% Low Molecular Weight Emulsion	3	5
Polish "F"	5	7
+10% Low Molecular Weight Emulsion	5	9
+20% Low Molecular Weight Emulsion	6	5.5
+30% Low Molecular Weight Emulsion	5	4

The soiling test (Table 8) was devised by our technical service laboratory. This is a fast method of testing and while it does not correlate directly with a traffic test, subtle differences can be seen by the experienced technician and interpreted.

Polish is placed on asphalt tile in the prescribed manner. Tiles are glued to paper. This strip of paper is placed in a fibre drum nine inches long and 10 inches in diameter.

One gram of carbon black and 16 pebbles, weighing 180 grams, are put in the drum. The unit is then rotated at 40 RPM for two minutes.

The panels are then removed, wiped with a damp cloth and graded visually—(1) little soiling through (4) most soiling.

Operators checked each other very closely.

For marring the following test (Table 9) was used by our laboratory:

Test tiles are cleaned, dryed

(*Turn to Page* 107)

Table 10

	TRAFFIC TESTS						
	Vinyl Weeks		Rubber Weeks		Linoleum Weeks		
Polish	2	4	2	4	2	4	Total
Polish "A"	1	2	1	2.5	3	1.5	11
+10% Low Molecular Weight Emulsion	2.5	1	2.5	2	1.5	2.5	12
+20% Low Molecular Weight Emulsion	2.5	3	2.5	1.5	1.5	2	13
+30% Low Molecular Weight Emulsion							
Polish "B"	3	2.5					5.5
+10% Low Molecular Weight Emulsion	4	1					5
+20% Low Molecular Weight Emulsion	1.5	2.5					4
+30% Low Molecular Weight Emulsion	1.5	4					5.5
Polish "C"	4	2	3.5	3	2.5	3	18
+10% Low Molecular Weight Emulsion	3	4	1.5	2.5	2.5	3.5	17
+20% Low Molecular Weight Emulsion	2	1	1.5	2	2.5	2.5	11.5
+30% Low Molecular Weight Emulsion	1	3	3.5	2.5	2.5	1	13.5
Polish "D"	2.5	3	2.5	3.5	2.5	3	17
+10% Low Molecular Weight Emulsion	4	2	4	2.5	2.5	2	17
+20% Low Molecular Weight Emulsion	2.5	1	2.5	3	4	2.5	15.5
+30% Low Molecular Weight Emulsion	1	4	1	1	1	2.5	10.5
Polish "E"	2.5	1.5	2.5	3.5	3.5	4	17.5
+10% Low Molecular Weight Emulsion	2.5	4	2.5	3	3.5	1.5	17
+20% Low Molecular Weight Emulsion	1	3	1	1.5	1.5	3	11
+30% Low Molecular Weight Emulsion	4	1.5	4	2	1.5	1.5	14.5
Polish "F"	1.5	3.5	4	3	3	3.5	18.5
+10% Low Molecular Weight Emulsion	4	1.5	3	1.5	3	1	14
+20% Low Molecular Weight Emulsion	1.5	3.5	1.5	1.5	2	3.5	13.5
+30% Low Molecular Weight Emulsion	3	1.5	1.5	4	2	2	14

WAX FACTS

NEWS OF INTEREST TO WAX USERS—
DEVELOPMENTS IN THE FIELD OF SYNTHETICS

Special Issue — S/57-8

World's Most Versatile Hard Wax

By I. Y. STRAUS

Chemical synthesis has produced a very hard wax called Duroxon® J-324. This unique material combines just about all the properties desired by the makers of wax products: brightest shine, longest wear, lightest color, easiest emulsifiability, best solvent retention and highest melting point.

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Since the introduction of Duroxon J-324, this versatile product has gained many friends among wax manufacturers who have enthusiastically adopted its use and thereby increased their sales and earnings. Among regular Duroxon users there are producers of janitorial supplies, household waxes, automobile polishes, shoe polishes and U. S. Government specification waxes.

Duroxon customers profit in more ways than one: Firstly, by purchasing only one single grade of hard wax for all emulsion and solvent-type products, they benefit from quantity discounts and contracts and achieve inventory simplification. Secondly, all guesswork in the face of Carnauba's quality and price fluctuations is eliminated. Thirdly, the end products are of high quality and — due to their attractive, light color — have more sales appeal.

A booklet about Duroxon J-324 is available which you may wish to have. So, drop us a line and we will be glad to send it to you.

Duroxon J-324 in Paste Waxes and Auto Polishes

By simply dissolving 15 to 20 parts of melted Duroxon J-324 in 85 to 80 parts of warm mineral spirits and pouring the solution into containers at approximately 135°F, a firm paste will result which sets up almost instantly. Consistency and cost of the paste can be modified by various additions of paraffin wax without necessarily increasing the solids content. A super-stiff, heat resistant paste can be made with 20 parts Duroxon J-324, 10 parts paraffin and 70 parts mineral spirits. High temperature sweating of the paste can be prevented by adding up to 1% of polyethylene to the formula.

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Duroxon J-324 emulsifies very readily and requires much less fatty acid than the comparable grade of Carnauba wax. For example: Melt 15 grams of Duroxon J-324 together with 1 gram of oleic acid. Adjust the temperature of the melt to 220°F and stir in 2 grams of morpholine. Then pour the composition with strong agitation into 82 grams of water at 205°F to 210°F. Or, you can proceed by slowly adding the hot water to the wax melt until a very clear gel results. The rest of the water may then be added more quickly. A semi-transparent emulsion will result which can then be transformed into a durable, waterproof, dry-bright maintenance wax by blending 85 to 90 parts of the wax emulsion with 15 to 10 parts of a 15% solids ammoniacal solution of Manila Loba C gum.

Successful Duroxon emulsions have been made with practically all presently known emulsifying systems and procedures. Duroxon J-324 is highly compatible with vegetable, petroleum and mineral waxes, resins and polyethylene. In every case it contributes improved emulsification and greater protection against procedural errors in manufacture.

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Duroxon waxes are the exclusive products of Dura Commodities Corporation, 20 Vesey Street, New York, N. Y. Stocks are maintained in New York, Philadelphia, Detroit, Atlanta, Los Angeles, San Francisco, Montreal and Mexico City for the convenience of customers.

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How S. C. Johnson conducts

New Product Development

Successful development of new product depends on use of selective screening technique ("picking a winner"); making new product development function of top management, using sponsor-group technique.

THE successful development and marketing of a new product depends upon three basic concepts, Samuel C. Johnson, director of the new products department of S. C. Johnson & Son, Inc., Racine, Wis., recently told a general management conference of the American Management Assn., meeting in New York. In new product development the manufacturer should:

1.) Use the selective screening technique ("picking a winner");
2.) Make new product development a top management function, and
3.) Utilize the sponsor-group technique to provide wide participation in all levels of a business.

Sound screening techniques can cut the fatality of new product ideas to a minimum, Mr. Johnson declared. He added that "effective screening has upgraded the quality of the ideas being worked on in the laboratory. . . . Now our fatality rate of approved ideas is only one in ten during development, and we have had no fatalities after the product reached the last marketing phase."

Mr. Johnson, son of the president of S. C. Johnson and a great-grandson of the founder, discussed new product development and diversification from the strong position of his company's own experience. He recalled that the Johnson company originally manufactured flooring. "Fifty years ago my great grandfather probably made the most significant new product decision in the history of the company. He decided to diversify from the manufacture of flooring to the manufacture of wax."

Recently S. C. Johnson & Son has ben diversifying its line of floor finishes with such new products as aerosol insecticides ("Raid"), room deodorants ("Glade") in aerosol and liquid forms, and recently "Off" a household insecticide repellent in liquid and aerosol forms.

In view of his great grandfather's decision to diversify, it seems "a little ironic," Mr. Johnson said, that one of the first assignments he was given upon joining the company was the investigation of the possibility of organizing the firm better for the development of new products. "In the process of this investigation," Mr. Johnson related, "I got so interested in this area that I engineered for myself the job of new products director, which a year and a half ago was established as a top management function of our company.

Samuel C. Johnson

Mr. Johnson cited a case history to illustrate the screening technique used by his firm to determine the potential of new product ideas. About two years ago the company examined the air freshener business, preparatory to launching its household deodorant, "Glade".

The total market, Mr. Johnson said, appeared to be $20 million, with prospects for a growth to $30 million in five years. S. C. Johnson company could expect 20 per cent as its share of this market, with an anticipated gross profit of 60 per cent. Numerically combining these figures indicated a gross profit estimate of $3,120,000 in three years.

"In the case of air fresheners," Mr. Johnson explained, "we estimated $33,000 for development, $1,100,000 for test marketing and introduction, and $22,000 in capital expenditures, or a total of $1,155,000 in new product investment. This gave us an investment-to-profit ratio of about one to three."

These factors were then weighed in the light of what Mr. Johnson called "fit" factors, which he said include: distribution fit, production fit, consumer advantages, lead time over competition and technical difficulty.

(*Turn to Page* 107)

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Factors influencing formulation and use of

Iodophors as Sanitizing Agents

By Gene A. Brost and Fred Krupin*

Antara Chemicals Division
General Aniline & Film Corp.
New York

A TYPICAL iodophor (1,2) is made by dissolving iodine in a nonylphenoxy polyoxyethylene ethanol surface-active agent. Surfactants of this type are usually made by condensing an alkylphenol with ethylene oxide and are water-soluble if the weight-per-cent of ethylene oxide is 60 per cent or greater. The dissolution of iodine can be aided by heating the mixture to about 50°C. Not all the iodine which dissolves in the carrier remains as bacteriologically active or available iodine. The available iodine, determined in several experiments by a potentiometric technique with standardized thiosulfate, is reported in Table 1. The total iodide in this table represents the amount that can be determined by the Volhard method after reduction of the available iodine with bisulfite. The combination or sum of these two procedures accounts for about 98 per cent of the iodine dissolved. About 80 per cent of the detectable amount is present as available iodine.

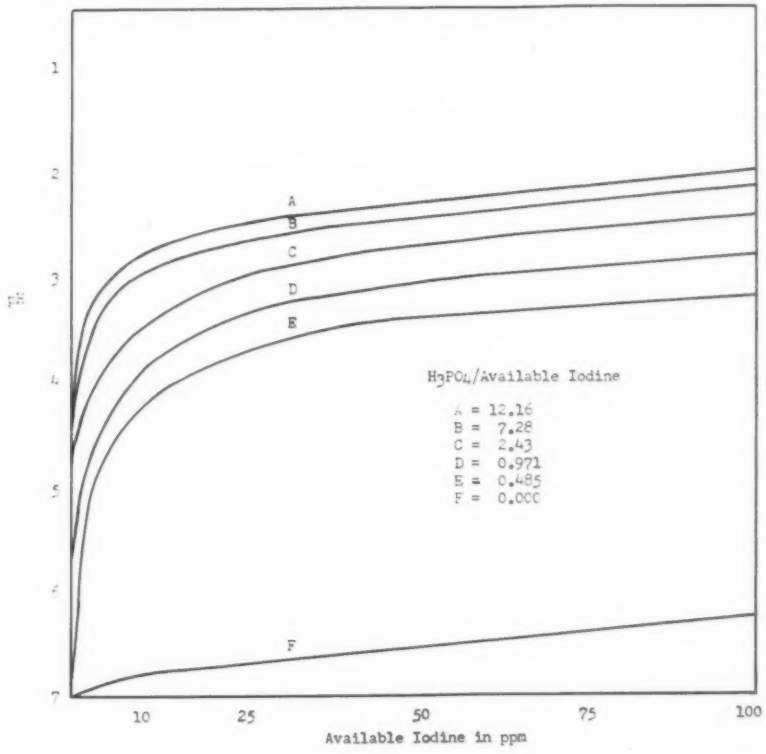
In the two examples represented in Table 1 note that the ratio of total iodide to available iodine is essentially constant, even though the proportion of iodine to carrier is changed by a factor of 2.

For convenience and simplicity in this discussion, a mixture of nonylphenoxy polyoxyethylene ethanol and iodine providing a minimum of 10 per cent available

Table 1. Ratio of total iodine to available iodine when dissolved in nonylphenoxy polyoxyethylene ethanol.

Experiment	% total iodide	% available iodine	ratio total iodide / available iodine
Iodophor 10 — Iodophor ratio = 7.8:1			
#1	14.9	11.5	1.30
#2	13.7	10.6	1.29
#3	13.8	10.9	1.27
Iodophor 20 — Iodophor ratio = 3.4:1			
#1	26.9	21.2	1.27
#2	27.2	21.0	1.25
#3	27.6	21.8	1.22
#4	27.2	21.0	1.25
#5	27.7	21.7	1.25

Figure 1. The pH of use solution vs concentration of available iodine for various ratios of phosphoric acid to available iodine.



* Paper presented before 131st annual meeting American Chemical Society Water, Sewage and Sanitation Division, Miami, April 8, 1957.

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Table 2. Acute oral toxicity studies with Iodophor 10 and 20 on white rats.

Amount fed in ml per kg of rat	Iodophor 10		Iodophor 20	
	Fed	Dead	Fed	Dead
1	10	0	10	0
2	10	4	10	5
3	10	6	10	9
4	10	8	10	10
5	10	10	10	10

LD_{50} = 2.6 ml/kg for Iodophor 10
LD_{50} = 2.1 ml/kg for Iodophor 20
LD_{50} = 2.8 ml/kg for the nonylphenoxy polyoxyethylene ethanol

iodine is designated as Iodophor 10, and one providing 20 per cent available iodine, as Iodophor 20. These are typical iodophor concentrates, which are used in the formulation of sterilizing and sanitizing agents. The iodophor ratio, by definition, is the actual ratio of carrier to available iodine. For example, the iodophor ratio is 7.8:1 for Iodophor 10 and 3.4:1 for Iodophor 20.

It was found that a typical commercial batch of Iodophor 10 decreased in available iodine content from 11.5 to 10.5 per cent during 11 months of storage in a closed container under the usual ambient conditions of temperature.

In another series of experiments, a stability check after 45 days on the Iodophor 20, stored at room temperature, showed no loss in available iodine. However, when the iodophor was stored at 43°C, the available-iodine content dropped from 21.4 to 19.1 per cent, suggesting lower stability at elevated storage temperatures.

Toxicological, Other Data

ACUTE oral toxicity data obtained by feeding white rats Iodophor 10 and 20 are presented in Table 2. The LD_{50} for Iodophor 10 was found to be 2.5 ml per kg of body weight when the product was administered intragastrically. The LD_{50} for Iodophor 20 was 2.1 ml per kg. It is interesting to note that the LD_{50} for the nonionic surfactant alone was 2.8 ml per kg of body weight.

The results of repeat-insult patch tests performed on 200 human volunteer subjects with Iodophor 10 and 20 dissolved in water at a concentration providing two per cent available iodine were as follows:

(1) Iodophor 20, which has an iodophor ratio of 3.4:1 was found to be a primary irritant when contact sites were covered but was safe to use when contact sites were exposed to the air.

(2) Iodophor 10, which has an iodophor ratio of 7.8:1 was found to be neither a primary irritant nor a sensitizer.

These two iodophors were compared on an equal basis of available iodine for bacteriological activity on E. *Coli* and M. *Pyogenes* var. Aureus by the use of the Chambers Modification of the Weber-Black Test (3). A stock solution containing, by analysis, 175 ppm available iodine was prepared from each iodophor and was used to make up the test concentrations. The test dilutions were plated within seconds after pipetting into plates and the plates were then incubated at 35°C for 48 hours before the counts were recorded. The precautions and controls suggested in the method were followed. Phosphoric acid was used to maintain an acid pH. The results obtained are given in Table 3. A 99.999 per cent kill was obtained with either iodophor at one ppm available iodine. The results shown here indicate that the biocidal effectiveness of the acidified product with an iodophor ratio of 7.8:1 is equal to that of the acidified product with an iodophor ratio of 3.4:1. This is in general agreement with the data of Allwala (4) and Moore (5).

Formulations of Iodophors

IN one of their many fine papers Gershenfeld and Wittin (6) recently have shown that an acid environment is necessary to obtain the maximum biocidal efficiency of iodine. Therefore, to prevent the decomposition of iodine, an iodophor must be mixed with sufficient acid to maintain the desired degree of acidity in the water present at use dilution. Iodophors 10 and 20 are typical concentrated intermediates which require formulation with acid into finished products.

Although many acids are satisfactory, phosphoric has been used to provide an acid buffer in the illustrations cited in this paper and also by Gershenfeld and Wittin (6). In addition to its low toxicity and volatility, phosphoric acid has buffering action in the pH range of 3-4. The ratio of acid to available iodine in a sales product depends on the extent to which the product will be diluted. The acidity of sales-strength formula-

Table 3. Plate count of surviving organisms per milliliter of test solution.

	Iodine concentration in ppm	pH of solution	Plate count/ml test soln.		
	Exposure Time		15 sec	30 sec	60 sec
Escherichia Coli (ATCC-11229)					
Iodophor 10	1.0	4.55	3,900	3,200	360
	5.0	3.80	0	0	0
	10.0	3.45	0	0	0
Iodophor 20	1.0	5.80	12,800	7,900	0
	5.0	3.95	0	0	0
	10.0	3.30	0	0	0
Initial count 75,000,000/ml.					
M. pyogenes var. Aureus (FDA-209 ATCC-6538)					
Iodophor 10	1.0	4.55	69,000	2,900	820
	5.0	3.80	0	0	0
	10.0	3.45	0	0	0
Iodophor 20	1.0	5.80	1,600	20	10
	5.0	3.95	0	0	0
	10.0	3.30	0	0	0
Initial count 44,000,000/ml.					

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Table 4. Stable iodophor sanitizing formulations.

Ingredients	Composition in Parts by Weight of Ingredients			
Formula Number	I	II	III	IV
Available Iodine	1.75	1.75	0.8	0.8
Iodophor 10	17.5	—	8.0	—
Iodophor 20	—	8.75	—	4.0
Nonylphenoxy polyoxyethylene ethanol (E.O. = 75 or 86%)	5.0	5.0	3.0	3.0
Phosphoric acid (85%)	10.0	10.0	5.0	5.0
Water	67.5	76.25	84.0	88.0
Iodophor Ratio	11.4:1	6.5:1	12.3:1	7.4:1

Table 5. Stability of Formula II in glass containers under various storage conditions.

Container	Exposure	Temperature	% available iodine		
			Initial	After 38 days	After 70 days
clear	dark	25°C	1.76	1.74	—
amber	dark	25°C	1.76	1.74	—
clear	light	25°C	1.76	1.74	—
amber	light	25°C	1.76	1.73	—
clear	oven	50°C	1.78	1.67	1.67

tions must also be adjusted with respect to the alkalinity of the water in which the product will be used. The pH at use dilution as a function of the concentration of available iodine is shown in Figure 1 by a family of curves, in which each curve represents a different ratio of acid to available iodine. The data represented in Figure 1 were obtained by dilution with distilled water.

The formulation of stable iodophor concentrates and acids into finished products which are themselves physically and chemically stable has been accomplished by using either a mixture of different types of surface active agents or blends of similar nonionic surfactants having different solubility characteristics.

In a recent patent, Sutton and Reynolds (7) claimed iodophor concentrates made from the polyoxyalkylene surfactants invented by Lunsted (8), and described formulations of these iodophors with acids. The stability of these formulas was stated to be improved by the addition of water-soluble nonylphenoxy polyoxyethylene ethanol surfactants. Isopropanol was suggested by Sutton and Reynolds (7) as a means of lowering the viscosity of iodophor formulations. In the products and formulations described in this paper, fluidity and solution stability, both physical and chemical types were obtained without the use of a volatile diluent by blending nonylphenoxy polyoxyethylene ethanol-type surfactants of different ethylene oxide percentages.

Four stable sanitizing formulations are listed in Table 4. In these formulations it is necessary to add a nonionic surfactant, based by weight on 75 or 86 per cent of ethylene oxide (E.O.), to the iodophor concentrate, in order to prevent phase separation at the three different temperatures (5°C, 25°C and 50°C) selected to cover the normal variations in storage conditions.

Iodophors compounded in this fashion essentially are stable when packaged in ordinary flint-glass sample bottles. Table 5 shows the effect of storage under various conditions on the available-iodine content of Formula II. In this test identical samples were exposed to light in clear and in amber bottles and compared with a control stored in the dark. Under these conditions, storage for 38 days at room temperature showed very little loss in available iodine. Storage tests, on portions of the same solutions, conducted at 50°C in a thermostatically controlled oven, gave a decrease in available-iodine content from 1.78 to 1.67 per cent. It is interesting to note that storage for an additional 32 days seemed to cause no further decomposition.

The foam associated with the nonionic surfactant used as the carrier in the iodophor may be decreased by incorporating a small portion of nonylphenoxyethanol containing 23 per cent of ethylene oxide. The effectiveness of this material in reducing foam increases with its concentration, as shown in Table 6. The standard Ross-Miles foam test was used to obtain the data reported here. A similar reduction in foaming was also observed using a pressure-spray technique designed to simulate industrial dishwashing practices.

Table 6. Effect of nonylphenoxyethanol in reducing foam of Iodophor 20 by Ross-Miles foam test at 120°F. and 100 ppm available iodine.

% Iodophor 20 plus nonylphenoxyethanol (23% ethylene oxide)	Foam in mm	
	Initial	After 5 min.
0	72.6	61.3
5	47.5	40.0
10	42.5	35.0
15	28.0	25.0
20	21.5	19.5

The iodophor ratio of a sanitizing-rinse formula should be as low as possible, in order to minimize foaming at use dilution. However, a detergent-sanitizing product must meet the detergency as well as the sanitizing requirements of the use solution. An iodophor ratio of 8:1 or greater will provide adequate detergency for most uses. The 1.75 per cent available iodine formulations represented in Table 7 as Formulas V and VI fulfill these requirements. These low-foaming products, according to laboratory foam measurements, are suitable for application in pressure-spray-washing equipment.

Summary and Conclusions

METHODS are described for formulating iodophor concentrates with phosphoric acid to obtain the acidic solutions required for maximum biocidal activity and chemical stability. Physically and chemically stable sales-strength formulations containing phosphoric acid were obtained through addition of nonylphenoxy polyoxyethylene ethanol containing 75 or 86 per cent by weight of ethylene oxide to Iodophor 10 and 20. The foam associated with the nonionic surface-active agent used as a car-

(*Turn to Page* 105)

Control

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Merchandising Safety with SAE Brake Fluid

By Joseph D. Ryan*

Olin Mathieson Chemical Corp.
Baltimore

MR. WEBSTER'S latest definition of the word merchandising is "to trade or traffic in – seeking to further sales or use of merchandise or services by attractive presentation and *publicity*."

What can be said of merchandising needs a volume to describe adequately, and, in fact, many volumes have been written on the subject describing its pinnacles – and its pitfalls.

In merchandising safety through the use of industry recognized brake fluids, let me first touch on the operation of the automotive hydraulic brake system. Our present day hydraulic systems employ a simple law of physics – known for over 300 years – "pressure applied to liquid is transmitted equally to all parts of the system." The liquid involved (for the purpose of this discussion) is our present day hydraulic brake fluid.

I have heard it said that the first demand for hydraulic brake fluid was way back when the engineers who designed hydraulic brakes placed them in the hands of the chemists and said, "they are mechanically perfect and operate with water. What we want from you is a fluid to replace the water for use under all road conditions– and its requirements are as follows:

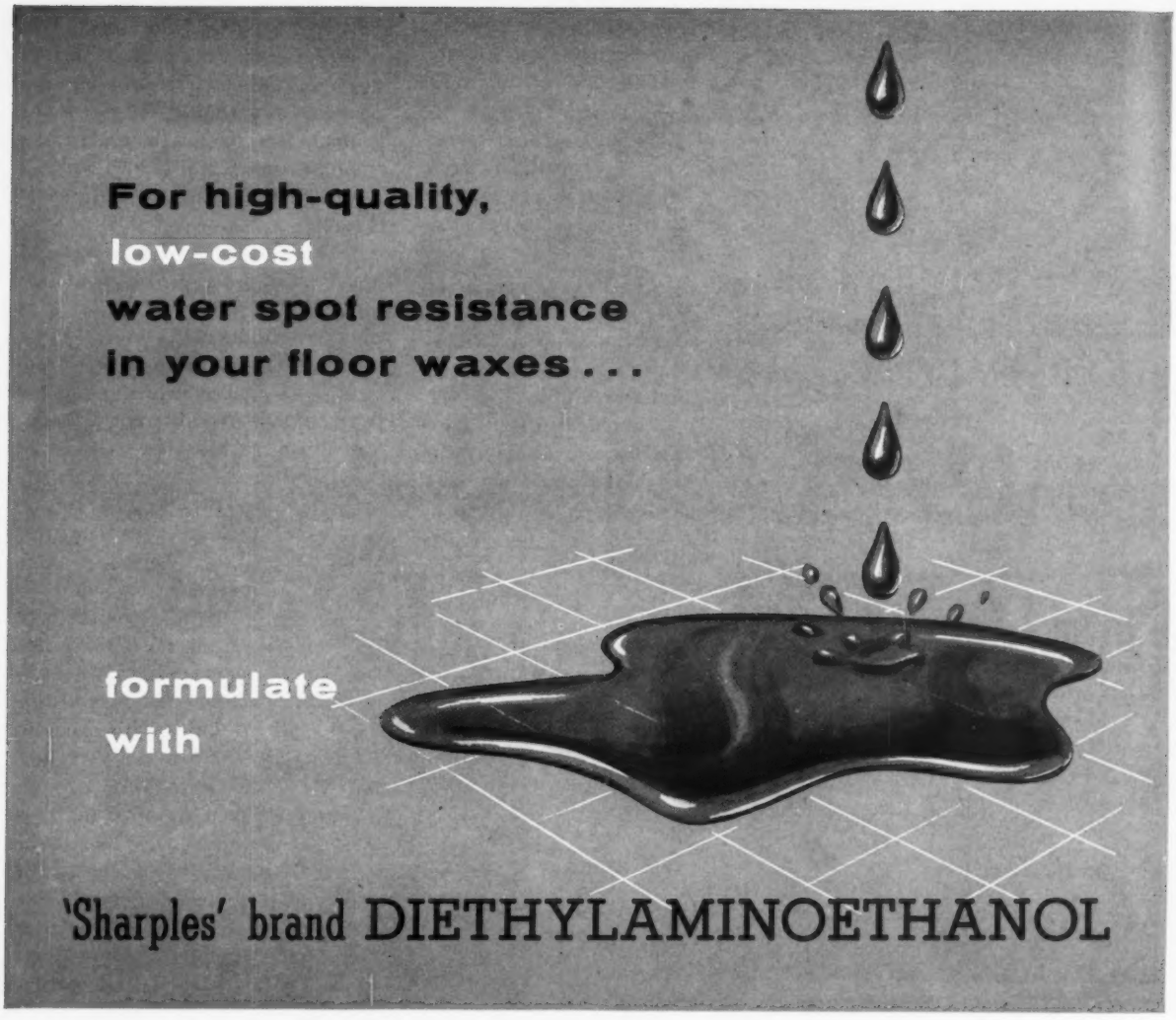
> It must lubricate all working parts. It must not boil nor foam, nor freeze at any temperature where a car is operated. It must not rust nor corrode metals. It must be passive to rubber, and chemically stable. It must be made from materials that are not only commercially available in quantity, but are inexpensive as well."

This was a large order, and the type of fluids produced at that time can hardly be compared with today's production fluids. Since then many advances in fluid formulation have been made and many SAE fluids (of different brands) are available today as a result of increased production know-how involving materials, blending, formulation, and fluid characteristics. The Society of Automotive Engineers has been instrumental in bringing this about. From the SAE have come specifications and performance requirements for moderate duty (70R2) and heavy duty (70R1) brake fluids. As you know, these specifications are revised, modified, and upgraded from time to time to keep up with the ever changing service requirements of the forward-moving automotive industry. In this respect, fluids conforming to the SAE 70R2 moderate duty specification are no longer considered satisfactory for passenger car use – and a higher, more rigid SAE heavy duty fluid specification is presently being considered for publication–in addition to the existing 70R1 heavy duty specification.

Merchandising Efforts

IN THE main, present day merchandising efforts on the part of fluid manufacturers are largely concentrated in trade magazine and direct mail as the media for merchandising and publicizing their product. Sales promotion efforts, for the most part, take the form of detail (missionary) work, brake service clinics, dealer sales meetings, posters, fluid dispensers, price deals, and various incentives. It is interesting to note that both the merchandising and sales promotion efforts are directed at the brake fluid outlet – the parts jobber, the

* Paper presented during a symposium on brake fluids at the 43rd midyear meeting of the Chicago, May 21, 1957.



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car dealer, the independent garage man, and the filling station operator.

Now, while there are several aspects to merchandising brake fluid, where does the car owner (the consumer) fit into this merchandising picture? Strange as it may seem, the vast majority of the motoring public – including some of you perhaps – are completely unaware as to:

1. what a quality SAE fluid is
2. what it does
3. how it does it
4. the universal need for it
5. its close relationship to highway safety

In view of the number of years that hydraulic brakes have been in use on American cars, the lack of information possessed by the average car owner regarding the operation of his brake system is staggering. He either has little or no idea of what activates his brakes, or he assumes that when his car is serviced the supply of brake fluid in the reservoir will be checked, and some type of brake fluid added if necessary. Undoubtedly, many can personally testify that this "level check" safety service is not performed with any degree of regularity, if at all – even though the need for it is obvious.

By checking the brake fluid supply at regular intervals, either in the process of lubricating the car, or at compulsory inspection dates, or both, the danger connected with insufficient brake fluid would be substantially reduced; and should repeated additions of fluid be necessary it would serve as a warning to both car owners and service men that further inspection is necessary to detect possible fluid leakage.

Several years ago, the Puritan Company (now part of the Olin Mathieson Chemical Corporation) checked hundreds of cars for the purpose of determining the adequacy of *supply* and the operating *condition* of hydraulic brake fluids; and also to determine whether or not an unpublicized and dangerous driving hazard existed. The results of the survey (in which 2000 cars were checked) were as follows:

¾ full to full . . 26.8%
½ full 57.8%
Dangerous . . . . 12.6%)) 15.4%
Empty . . . . . 2.8%)

The fact that 73.2% of all cars checked needed additional brake fluid, and that 15.4% of all cars checked were in imminent danger of sudden brake failure is indeed startling. I believe that it is safe to say that in spite of the increase in the use of fluids conforming to the SAE specifications, similar dangerous conditions are present today. Another equally important result of the survey pointed out that 24 per cent of the cars checked needed a complete change of brake fluid due to its dirty, gummy appearance, and to the accumulation of dangerous dirt particles and foreign materials.

From a safety and merchandising view-point the condition and chemical stability of brake fluid after prolonged use in a motor vehicle should not be overlooked. With age and use, fluids tend to become thicker, take on moisture contamination, collect foreign substances and, in general, do not retain all of their characteristics as when new. This is not a healthy condition and could possibly lead to sudden brake failure.

Let me repeat that the average motorist is unaware of the threat to his safety contained in the hidden dangers of insufficient brake fluid, and old deteriorated brake fluid. Why is this so? Certainly not because of indifference, but rather because no one has told him of the importance of regular brake system preventive maintenance.

It is felt by many in the brake fluid industry that very few drivers would neglect to have their car's brake fluid *regularly* checked for sufficient level, and changed when necessary–if they knew why they should do so.

From conditions and experiences encountered in the field, it would appear that there exists a basic need for a continuing educational safety campaign directed at the car driving public (consumer). I feel that the main theme of any such consumer program should naturally stress the importance of safety and efficient brake operation – by encompassing several topics designed to educate the driver, including:

1. How brakes "brake"
   a. knowledge of the compenent parts of the hydraulic system and how they work.
2. The importance of regular brake fluid check and periodic fluid change.
3. The significance and importance of the use of only SAE quality brake fluids. (We are already helped somewhat in this respect by those states which have passed regulations governing the sale of brake fluid.)

How might such an educational program be accomplished? The workability of any worthwhile program requires much planning and hard work. No one fluid manufacturer should be saddled with the responsibility of undertaking so large a task. However, through a cooperative effort on the part of brake fluid manufacturers and CSMA, attention might forcibly be focused on this subject by carrying the "brake fluid importance" story to those safety organizations and other national and local groups who can put themselves behind this effort.

In closing, may I leave you with this one thought. It is hoped that the observations and comments you have heard may help to stimulate deeper thinking and further discussion on the subject of consumer safety education. As a result, the avenue will be open for us collectively to find a way to educate the motoring public on the importance of using SAE quality brake fluids. The benefits that naturally follow will then belong to all of us.

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Book Reviews

British Detergent Book

Synthetic Detergents, by P. A. R. Puplett, published June 1957 by Sidgwick & Jackson, Ltd., London W.C.1, England. Cloth bound, 241 pages, price 42s. net.

Subtitled "A Study of the Development and Marketing of a New Product," the volume covers the British synthetic detergent market up to the end of 1955. The author has based his work on two main sources: individual firms in the industry and published data gleaned from technical journals and other publications. The first source is by far the more important and has made this volume informative and highly specific in its data. Main suppliers of first hand information were the Co-operative Wholesale Society, Ltd.; Thomas Hedley and Co. (Procter & Gamble's British associate); Unilever, Ltd.; Marchon Products, Ltd.; Shell Chemicals, Ltd.; and a number of other manufacturers.

The first chapter briefly traces the history of soap from the earliest beginnings and outlines the rise of synthetic detergents from their German start in the 1920's to their present eminence in all civilized countries.

The general structure of the British detergent industry is examined in chapter II giving such interesting facts as: Hedley's total output of household soaps and detergents was 64 per cent synthetic in 1952 and 80 per cent synthetic in 1955. Unilever's production of household soaps and detergents by contrast, amounted to four per cent synthetic detergents in 1952 and 28 per cent in 1955.

Chapter III is devoted to the household market and accounts for the major part of the book. In 1955, synthetics, excluding dishwashing powders, amounted to 34 per cent of the British household market. While synthetic powders soared during the period from 1946 to 1955, synthetic liquids and dishwashing powders declined sharply. The battle of the giants is described and analyzed, when "Wisk" by Lever was displaced by "Tide" (Hedley). The rise, fall and reemergence of "Dreft" is told. This reviewer feels like a critic unwilling to disclose too much of a mystery story. Mr. Puplett's marketing study makes such fascinating reading, we are loath to give any more details.

Chapter IV deals with the competitive structure of the household market. Chapters V and VI briefly analyze the industrial market and its structure. Advertising is the subject of chapter VII, which shows some interesting graphs revealing the parallelism between advertising budgets and sales for individual products.

An author index and bibliography is appended. But the book lacks a subject index and this reader, for one, is rather lost without this guide to orientation.

Mr. Puplett's work makes interesting and helpful reading for anyone concerned with the soap and detergent industry.

★

New Cholesterol Booklet

A new booklet describing "Acetulan," an acetylated lanolin alcohol derivative recently developed by American Cholesterol Products, Inc., Edison, N.J., was issued last month by the company. The four-page, two-color brochure lists the product's applications, including shampoos; specifications; solubility characteristics and suggested formulations. Copies of the booklet are available.

★

Fritzsche Tells Its Story

A 46 page illustrated brochure was published last month by Fritzsche Brothers, Inc., New York essential oil and aromatics house. All major aspects of the firm's New York and Clifton, N. J., plants are presented in this booklet entitled "Fritzsche Values". Particular stress is placed on Fritzsche's service supplying tailor made answers to individual customers' problems in the field of perfumes, odorants, and flavors. Quality control of raw materials and formulated products, production, automated office procedure, and basic research are included among the wide range of activities described and illustrated. The booklet is available upon request to Fritzsche Brothers, Inc., 76 Ninth Avenue, New York 1.

★

New Mathieson Brochure

A technical bulletin on "Terraclor," its new pentachloronitrobenzene soil fungicide with horticultural applications, was issued recently by Olin Mathieson Chemical Co., Baltimore 3. Said to be highly stable and non-corrosive, the product is compatible with all insecticides and fungicides with a pH of seven or below and which are similar in formulation. It is available in dust, wettable powders and emulsifiable concentrates. Copies of the bulletin may be obtained from the company.

★

Cowles Detergent Data

Cowles Chemical Co., Cleveland, recently issued two new folders describing the most recent additions to its line of "Escolin" and "Colesco" detergents. "Escolin" is a heavy duty detergent designed primarily for use on linens and in industrial and institutional laundries. "Colesco" is a low foaming, all-purpose synthetic detergent for both hot and cold water washing. Copies of the literature may be obtained from the company, 7016 Euclid Ave., Cleveland 3.

★

Pesticide Handbook 1957

Last month appeared the ninth edition of Pesticide Handbook by Donald E. H. Frear, published by and available from College Science Publishers, State College, Pa. The 1957 handbook costs $1.50 paper bound, $3.00 cloth bound. On 216 pages the volume

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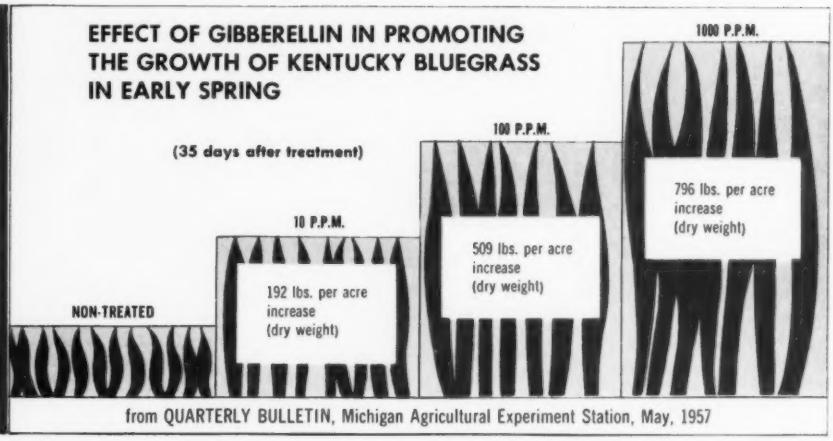
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192 lbs. per acre increase (dry weight)
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from QUARTERLY BULLETIN, Michigan Agricultural Experiment Station, May, 1957

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carries 6234 listings of insecticides, fungicides, herbicides, rodenticides, soil conditioners, and equipment. The main body of the book is devoted to trade name listings. Manufacturers and pesticides classified by uses and active ingredients are listed in separate sections. Information on antidotes, compatibilities, hazards, and tolerances set up to Feb. 1, 1957 is included.

—★—

New Butanol Bulletin

A new 12-page bulletin describing butanol was issued recently by Union Carbide Chemicals Co., New York. The product is used as a diluent in hydraulic fluids, a solvent in surface coatings and an intermediate in plasticizers.

The booklet provides information on physical and chemical properties, specifications, shipping data, solubilities, constant-boiling mixtures, and applications. Copies of the bulletin may be obtained from the company, 30 East 42nd St., New York 17.

—★—

New Snell Booklet

A new 24-page booklet entitled "How to Develop Successful New Products," was issued recently by Foster D. Snell, Inc., 29 West 15th St., New York 11. The new paper-bound, two-color brochure is divided into 19 sections and includes information on product research, consumer testing, financing, sampling and packaging. The booklet also contains a complete list of the consulting firm's fields of specialization. Copies of the publication may be obtained from Foster D. Snell, Inc. at the above address.

—★—

New Fritzsche Catalog

Fritzsche Brothers, Inc., 76 Ninth Ave., New York 11, recently announced publication of its new wholesale price list of essential oils, aromatic chemicals and related materials. The catalog is divided into 15 sections covering perfuming materials and flavoring compounds. It is available to wholesale purchasers of the materials.

Self Emulsifying Wax

Concord Chemical Co., 205 South Second Street, Camden 1, N.Y., introduced recently "Co-Wax," a product said to form a stable carnauba type water wax emulsion when added to hot water. This simple procedure is claimed to yield a uniform emulsion of light and translucent appearance and fine particle dispersion.

"Co-Wax" is intended for use in floor polishes, leather and textile finishes, and paper coating products. If intended for floor products Concord "Co-Wax" Additive should be included in the emulsion. The combination gives a self-polishing floor finish, said to have good anti-slip, gloss and wearing properties.

Samples and further information are available from Concord at the above address.

—★—

Brillo Earnings Rise

Brillo Mfg. Co., Brooklyn, N. Y. recently reported a substantial increase in income and earnings for the first six months of 1957. Net income totaled $403,710, equal to share earnings of $2.80. This compared with an income of $305,112 and earnings of $2.11, in the corresponding period of the previous year.

Iodophors

(*From Page* 97)

rier for the iodine can be decreased by the incorporation of nonylphenoxy polyoxyethylene ethanol in the formula.

The ratio of carrier to available iodine has been defined as the iodophor ratio. Preliminary data indicate that biocidal activity appears to be independent of iodophor ratio, whereas the nonirritating character of an iodophor does depend upon this ratio.

An iodophor formulation for use in a sterilizing rinse needs contain only enough nonionic surfactant to serve as a carrier for the iodine. On the other hand, formultaions to be used as detergent-sanitizers must contain sufficient surface-active agent to satisfy the detergent requirements of the use solution, in addition to serving as the carrier for iodine.

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Table 7. Detergent-sanitizer formulations providing 1.75 per cent iodine.

Ingredients	Composition in parts by weight of ingredients	
Formula Number	**V**	**VI**
Iodophor 20	8.75	8.75
Nonylphenoxypolyoxyethylene ethanol		
75% e. o.	5.60	—
65% e. o.	—	5.60
23% e. o.	3.15	3.15
Phosphoric acid (85%)	10.00	25.00
Water	72.50	57.50
	100.00	100.00
Iodophor ratio	8.6:1	8.6:1
Ross-Miles Foam in mm (Temperature = 120°F Concentration = 17.5 ppm Iodine)		
initial	20	20
after 5 min	10	10

ACETATES Amyl, Normal Butyl, Secondary Butyl, Ethyl, Isopropyl, Normal Propyl

ALCOHOLS Normal Butyl, Secondary Butyl, Isopropyl, Methanol, Proprietary Ethyl Alcohol, Normal Propyl

ALKALIES Caustic Soda, Trisodium Phosphate

ALKANOLAMINES Diethanolamine, Di-Tri-Isopropanolamine, Monoethanolomine, Monoisopropanolamine, Triethanolomine

AROMATIC SOLVENTS Benzol, Toluol-Xylol, Heavy Aromatic, SC Solvents #1, 2, 3, 28, 100, 150, and 450

CHLORINATED HYDROCARBONS Carbon Tetrachloride, Chlorothene, Ethylene Dichloride, Methylene Chloride, Orthodichlorobenzene, Perchlorethylene, Propylene Dichloride, Trichlorethylene, Trichlorobenzene

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GLYCOLS Diethylene, Dipropylene, Ethylene, Propylene, Triethylene, Tripropylene

KETONES AND ETHERS C. P. Acetone, Diacetone, A F, Methyl Acetone, Methyl Ethyl Ketone, Methyl Isobutyl Ketone, Ethylene Glycol Ethers, Propylene Glycol Ethers

NAVAL STORES Dipentene, Pine Oil, Turpentine, Gum & S.D. Wood, Rosins, Gum & Wood, Modified Rosins, Resinates

ALIPHATIC-HYDROCARBONS Heptane-Hexane, Mineral Spirits, Odorless Mineral Spirits, Benzene (VM&P) and other standard and custom Aliphatic-Naphthas.

OILS AND FATTY ACIDS Linseed Oil, Talloil, Talloil Fatty Acids

STEARATES Aluminum, Barium, Calcium, Iron, Lead, Manganese, Magnesium and Zinc

WAXES Emulsifiable, Dip Wax, Paraffin, Plastic Waxes, Sugar Cane Waxes

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pounds." *U. S. Patent 2,674,619* (April 6, 1954).

New Product Development

(*From Page* 91)

"With 'Glade'," he said, "we estimated that we could cover 80 per cent of the outlets handling this type of product; that we could get the product filled economically for us by outside contractors, that our product would perform demonstrably better than anything on the market, and that we had a lead time over competition of six months. We found that the product technically was about average in difficulty to formulate in the laboratory."

Speaking of product screening, Mr. Johnson said, "our objectives are to pick out product ideas with the lowest risk and the highest possible return. It is like a stud poker game. If you bet on every hand, by the time you do get aces back to back you have neither the heart nor the resources to put your strength behind a winner."

"In a large company," Mr. Johnson said, "There are maybe 10 times as many ideas as time or manpower available to work on them." To sort out the best, an "objective and realistic" technique of screening ideas at the beginning of the new products cycle must be set up, he added.

New product development is a function of top management, whether the company is a one man business or a complex industrial organization, Mr. Johnson stated.

The third basic concept essential to the successful development of a new product, according to Mr. Johnson, is the use of the sponsor-group technique. The group – and the Johnson company currently has 40 sponsor groups, each working on its own new product – comprises the man who originated the idea, the man who will do the technical work, the man who will sell the product, financial and production members as needed, and a member of the new products department.

"The sponsor group captures all of the basic initiative, drive and enthusiasm that a one-man operator of a business has in developing his new product," Mr. Johnson said.

"We think our concept of new product planning symbolizes free enterprise at its best because it seeks to challenge the creative resources of a broadening group of men at all levels in business," Mr. Johnson pointed out. "This creative challenge centers around the most important and basically interesting part of a business – the product and the consumer," he concluded.

Emulsion Polishes

(*From Page* 89)

and coated. A rod (Size ¼" diameter) of 54 grams weight is tipped with leather. A duplicate rod is tipped with rubber. The rod is dropped onto the film from various heights until marring occurs.

The results are reported as "inches" in height.

In the traffic test (Table 10) the nine square feet panels were coated with two coats of polish. Twice a week for four weeks the panels were damp mopped, and rotated to the next station.

The panels were not buffed after damp mopping.

A brief summation of the program test results is shown in Table 11. Where there is an improvement there is a plus. Where there is no improvement there is on "0". In many cases where a minus sign is used, a properly balanced formulation would put this into the plus category. Adding them all up, we see that

Polish "A" has	7+	11—
Polish "B" has	10+	2—
Polish "C" has	8+	4—
Polish "D" has	11+	5—
Polish "E" has	15+	6—
Polish "F" has	15+	7—

Interpreting these figures it can be seen that in all polishes except "A", 10, 20 or 30 per cent of low molecular weight emulifiable polyethylene will improve the commercial polish.

Aerosols . . .

(*From Page* 79)

ucts for which he was responsible; that is, buy them as he needed them and according to retail movement.

By 1955 the median price of

Table 11

		A			B			C			D			E			F		
		10	20	30	10	20	30	10	20	30	10	20	30	10	20	30	10	20	30
Stability	F	0	0	—	0	0	0	0	0	0	0	0	0	—	—	—	0	—	—
	S	0	0	—	0	0	0	0	0	0	0	0	0	0	—	—	0	—	—
Slip	73	0	—	—	+	+	+	+	+	+	+	+	+	+	+	+	—	—	+
	83	+	+	+	+	0	+	—	+	+	+	—	+	+	+	+	+	+	+
Buff		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Water resistance		0	0	+	0	0	+	0	0	0	0	0	—	0	0	0	+	+	+
Soiling		—	—	—	—	+	—	—	—	—	—	—	—	+	+	+	+	+	+
Traffic		—	—								0	+	+	+	+	+			
Mar		—	—	0				0	0	0	0	0	+	0	0	—	—	+	+
	+	2	2	3	3	3	4	2	3	3	3	3	5	5	5	5	4	5	6
	—	3	4	4	1	0	1	2	1	1	1	2	2	1	2	3	2	3	2

HER NOSE GETS SPECIAL ATTENTION

And Mrs. Consumer's nose should get special attention when you are planning your new product. The subtle influence of scent is becoming more and more importantly recognized as a significant influence in brand loyalty as well as initial sale.

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an aerosol insecticide package was less than $1.00. Fortunately, this 10-year trend was reversed in 1956, and the median price rose to $1.20. I believe the median price will be even more favorable in 1957, with over 60 per cent of all aerosol insecticide volume retailing above $1.00.

One final bit of marketing orientation that may be helpful in planning for the future – an ever increasing share of aerosol insecticides is being sold through food stores, particularly super markets. All of us are aware of this fact, but do we appreciate how rapidly this shift is taking place? Food stores registered an insecticide volume increase of over 10 per cent and a share of market increase of almost 20 per cent from 1955 to 1956.

In 1955 food stores sold about 55 per cent insecticide and 45 per cent aerosol.

In 1956 this was reversed – 45 per cent liquids and 55 per cent aerosols.

In 1957, I believe, over 60 per cent of food stores' insecticide volume will be aerosol and that food stores will do over 70 per cent of all insecticide volume. Needless to say, marketing through the food store channel of distribution is significantly different from the historic pattern in hardware, drug and variety stores, and there is real opportunity for packaging and product differentiation, product innovation and brand leadership.

Also, the favorable usage trends in aerosol insecticide and the strengthened pricing structure give added impetus to the opportunity for aerosol insecticides in the future.

In concluding I should like to point out that, for reasons of space, I have purposely related all my remarks to the aerosol insecticide market, to the exclusion of space deodorants, hair lacquers, and many other aerosol products. I regret that space does not permit a more complete discussion of aerosol insecticide marketing developments and some comment on the other aerosol markets. Fortunately, these other aerosol markets seem to be developing on a very favorable basis.

I hope my frank discussion of a few of the marketing facts on aerosol insecticide will be helpful to all segments of the aerosol field.

Termite Control

(*From Page* 76)

have a strong desire to reach some solution to this problem, as without soil treatment, there seems little it can do to protect its interest in a goodly number of slab-on-ground houses.

Regardless of the F.H.A. decision, the value of chemical treatment of the soil as built-in protection against termites is currently accepted and use of the technique will expand. If its practice is placed in the hands of competent operators, it will be a boon to the public. If it becomes merely another formality, to be complied with at the lowest cost, soil treatment for termite protection will fall into disrepute. The chemical industry, the pest control industry and the public have equal interests in seeing this technique develop on a sound basis.

Nonionic Surfactants

(*From Page* 54)

increases the molecular weight goes up, the cloud point rises and the initial foam in a Ross Miles test goes through a peak at about 80 per cent ethylene oxide. The detergency as measured from the reflectance of cotton after washing remains fairly level over the range of water soluble products. (5)

Each of these surfactants are mixtures of ethoxylated nonylphenol with an average mol ratio as described. The mol ratio distribution is such that for a 10 mol product about 80 per cent by weight is within the range of eight to 16 mols of ethylene oxide. (8) In certain applications, i.e. emulsification detergency, and in obtaining specific solubility or compatibility, a wider spread of mol ratio distribution is desirable. Mixtures of alkylphenol - ethylene oxide nonionics are often formulated to give special performance.

On the other hand, certain different performance specifications can be obtained by changing the alkylphenol and keeping the ethylene oxide at the same weight percent. Table II describes several physical and chemical variables when four different alkylphenols are treated with enough ethylene oxide to give the equivalent water solubility to all the resulting products.

Moving up in alkylphenol from octyl to dinonyl, it requires almost 50 per cent more ethylene oxide (9.5 to 15 mols) to give similar cloud points. There is an increase in molecular weight of 60 per cent. The physical form goes from a liquid to a paste as the solidification point moves upward from 15° to 60°F. The Ross Miles foam tests show a definite decline in foam with the increase in molecular weight.

Weight Advantages

THERE are certain significant advantages to the higher molecular weight alkylphenols. When the water soluble types are tested for detergency there are small but distinct improvement in whiteness reflectance of cottons when the molecular weight of the alkylphenol goes up. When the oil soluble types are tested for emulsification there is a definite improvement in the stability of the emulsion, but oddly enough, increasing the alkylation does not necessarily improve the solubility of the nonionic in solvents.

The sales volume of alkylphenol - ethylene oxide adducts is growing rapidly. The tremendous growth of household liquid detergents has added recognition to alkylphenol nonionics in two ways: 1. Alkylphenol nonionics make excellent bases for sulfation to obtain high-foaming anionic detergents with excellent detergency and low skin sensitization. 2. In the same market it is interesting to note that the first national light duty liquid

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Table II Ethylene Oxide Constant — Varying Alkylphenol

Base	% ETO	Mol Ratio	M.W. =	Cld. Pt. 1% H_2O °F.	Solid Pt. °F.	Physical Form	R.M. Foam .05% 77°F. ML.
MOP	67	9.5	625	130	15	Liq.	66
MNP	65	10.0	660	128	26	Liq.	61
DDP	65	11.0	750	130	56	Cld. Liq.	38
DNP	64	15.0	1000	125	60	Soft Pst.	30

MOP — Mono Octylphenol DDP — Dodecylphenol
MNP — Mono Nonylphenol DNP — Di Nonylphenol

was simply an alkylphenol-ethylene oxide product. This simple formula was abandoned in favor of compounded higher foaming products. In the past few years the alkylphenol nonionics have been re-introduced to this market, formulated with high foaming surfactants where the emulsifying and detersive qualities of these nonionics is an added value. Both light duty and heavy duty liquids have benefited by the alkylphenol nonionics.

There has been increased use of low foaming laundry powders for home and industrial use, these too use alkylphenol nonionics. There is a growing demand for these products in commercial laundry practice as a replacement for soap. Also there is a constantly expanding interest in the iodophors, i.e. nonionic - iodine complexes for biocidal uses in new fields of application.

The development of "flocculated" drilling muds for deep drilling, for saturated salt drilling, and for low solids emulsion muds has added to the importance of these surfactants.

The alkylphenol - ethylene oxide surfactants have contributed to the commercial success of thousands of products in practically every part of American industry. The growing demand is a compliment to the product and to the service these products have rendered.

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Heavy Duty Detergents

(*From Page* 46)

only about 15 per cent soluble in water at room temperature. This means only a 30 per cent solids, 70 per cent water solution is possible. By substituting the much more soluble potassium salt for the sodium and eliminating a large part of the sodium sulphate, which clutters up the system with a relatively non-active electrolyte, a considerable increase in concentration is available. In addition, it is apparent that the active base should be as soluble as possible. "Nytron", a product formerly made by the Solvay Division of Allied Chemical & Dye Corp., had an extremely good solubility for an anionic — about 35 per cent at room temperature. The organic salts of dodecylbenzene presently used, such as ammonium or triethanolamine, have possibilities and should be included in formulae investigations. The high electrolyte content of the solution may even preclude the exclusive use of anionics. In such cases, non-ionics with added detergent base foam stabilizers are interesting substitutes. Sodium xylene sulfonate is a useful solubilizer and might conceivably form a part of the active ingredient section. In any case, the active group must have good detergency, may or may not be a foaming type product and must be compatible at up to a 25 per cent concentration in an electrolyte solution containing possibly 30 per cent or more solids.

If the product is to be packaged in cans, an inhibiting agent, such as three to four per cent sodium or potassium silicate, may be used. A fluorescent dye should also be added, plus, perhaps, a bluing agent. By proper choice and testing it is possible to arrive at a formula containing about 50 per cent water, 25 per cent electrolyte and a 25 per cent active organic detergent mixture containing solubilizer, foam stabilizer and soil suspending agent.

Problems involved in putting together a liquid detergent formula do not end here, however. Is potassium tripolyphosphate the best type to use? Would tetra potassium pyrophosphate, which is closely similar to PTP in solubility be better? Actually, published data by W. B. Bennet and T. L. Liss (*Soap & Chemical Specialties*, January, 1957, page 44) show that the TPPP is greatly superior to PTP in such formulations due to its higher pH and greater stability to reversion. A suggested pH of 10 is given and the writer believes this level of value would be excellent in a product of this type since it is somewhat below normally built soap powders and just a little higher than built detergent powders. The problem of silicate precipitation with TPPP would also be less than with PTP for the same reason.

Although no attempt is made here to produce a specific formulation, it is believed that the present materials available point in a gen-

... about detergents

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Table 1

	Solid				Liquid			
	Composition %	Basis 2/3 cup in grams	Unit cost per lb.	Raw material cost per 2/3 cup in cents	Composition %	Basis 1/2 cup in grams	Unit cost per lb.	Raw material cost per 1/2 cup in cents
Water	6	4.7	—	—	50	69	—	—
Poly-phosphates	50	39.2	7.5	.650	20	23	15.5	.960
Active	20	15.5	12.	.414	15	21	12	.560
Solubilizers	—	—	—	—	10	14	9	.279
Sulfate, silicate dyes etc.	24	18.8	2.	.083	5	7	2	.031
	100%	78.2 grams		1.147¢	100	133 grams		1.830
Cost to user				4.000				8.4-9.8¢

eral direction to the basic ingredients named above. It seems unlikely that the use of a potassium salt of a polyphosphate can be avoided. This will add considerably to the cost of the finished product since the present price of the potassium salt is just slightly more than double that of the sodium salt. Add to this the difference in molecular weight and the price increase is over 2.6 times that of its sodium equivalent. The use of potassium silicate would seem to be called for to prevent metathesis between the sodium and potassium compounds with subsequent precipitation of the phosphates. However, this precaution does not seem to be necessary in most cases due, probably, to the great solubility and minute quantity of the silicates. This is fortunate as the cost of potassium silicate is five times that of the sodium salt.

Table I is designed to give a comparative cost estimate for equivalent cleansing lots of detergent, based on the basic formulae presented above.

From the table can be seen that basic raw material costs for a liquid detergent are considerably higher than those of a powder of an equivalent detersive amount. Although the costs of manufacture for such products may be low, the packaging and distribution costs will remain high. To this must be added the cost of research and development, plus the promotion cost. To the writer it appears that the present price structure is sound and has a sufficient cushion of safety to make the project interesting from an investment viewpoint.

The size of the potential market for liquids is the same as that of the market for heavy duty powders: about a billion pounds a year. This latter market is not likely to be displaced appreciably. The premium price will prevent that. However, it is quite likely that a sizable slice of this market will turn to liquids. Whether this trend will be as rapid as that of the light duty liquids remains to be seen. To the writer it appears quite probable.

—★—

Acknowledgement

THE writer wishes to take this opportunity to acknowledge the assistance of a number of persons connected with this field. In particular, Robert McCulloch, an associate consulting chemist of Paterson, N. J., who did the required analytical work.

Nonionic Surfactants

(*From Page* 50)

cates. Therefore, the method has good reproducibility. The sample analyzed, however, does have a significant effect on accuracy, and accuracy data as a function of sample are given in Table V. It is clear that the accuracy tends to vary with the active composition. But in all cases, the results are not significantly different from the intended values. Had highly purified surfactant ingredients been used, the accuracy would have probably been better. The pure ingredients were not used because it was believed more pertinent to use proprietary materials to prove the usefulness of the method.

Sorption of other cations: Anionics having amine-based cations were satisfactorily sorbed on the resins, with no ionic material remaining in the effluent.

Desorption of anionics: Attempts have been made to desorb anionics from the anion exchange resin. Elution with aqueous alcoholic sodium and potassium hydroxide solutions have given encouraging results and efforts are being directed toward refining the method. We hope to be able to develop an ion exchange chromatographic analysis in which the sorbed anionics are eluted selectively and made available for identification. It may also be possible to apply ion exchange chromatography to separation of nonionics. Sargent and Rieman (11) have already applied this technique to separation of glycols, where the glycols were sorbed onto a resin-borate complex and later desorbed in a selective manner.

Summary

THE nonionic portion of a surfactant mixture can be determined gravimetrically following sorption of ionic surfactants from an aqueous ethanol solution on ion exchange resins. The surfactant anion is first removed by sorption on a basic anion exchange resin and the cation subsequently removed by passage of the solution through an acidic cation exchange resin. The final effluent contains the nonionic agent. A variety of

Superiority of GROCO 2 RED OIL revealed in unretouched photograph of low temperature test. Samples of GROCO 2 (left) and competitive red oil (right) were refrigerated at 36°F. for 24 hours side by side. No solids separated out of GROCO 2 RED OIL—it remained so transparent that technician's fingers and steel tray are clearly visible through vial. On right, solid acids separated in large amount.

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The unretouched photo above shows the results of a recent low temperature test between GROCO 2 and a competitive red oil. The GROCO 2 RED OIL (left) remained crystal clear to the bottom of the vial. The other material became heavily opaqued with frozen saturated acids.

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Table IV—Values Reported Based on Total Composition

Sample	% Nonionic reported based on total composition for — L_1	L_2	L_3	Av.	Expected value
S_1	3.54	3.62	3.52	3.55	3.35
	3.59	3.55	3.50		
S_2	4.83	4.80	4.78	4.84	4.98
	4.81	4.91	4.91		
S_3	13.95	14.07	14.25	14.10	14.23
	14.05	14.10	14.28		
S_4	9.25	9.16	8.92	9.06	9.52
	9.09	9.06	8.86		

L_1 = Dayton Lab 1; L_2 = Dayton Lab 2; L_3 = Everett Lab; S = Sample

Table V—Accuracy Per Sample*

Sample	Materials in original active composition	% Nonionic based on total composition — Av. Found	Expected	Difference	Standard deviation per lab	99 % Confidence limit/lab
S_1	NaDDBS NaTS LMEA	3.55	3.35	0.20	0.04	±0.15
S_2	NaDDBS LMEA	4.84	4.98	−0.14	0.07	±0.26
S_3	NaDDBS APhOH + EO	14.10	14.23	−0.13	0.04	±0.15
S_4	NH_4DDBS NH_4LS LDEA	9.06	9.52	−0.46	0.08	±0.30

* See reference 12.

anionic-nonionic surfactant mixtures were analyzed by this method with satisfactory accuracy and reproducibility. The method can be used for routine analysis.

Acknowledgement

THE interest of Jay C. Harris and the excellent assistance given by Frances B. Kinney, Carman Church, and Billy R. Pierson are gratefully acknowledged.

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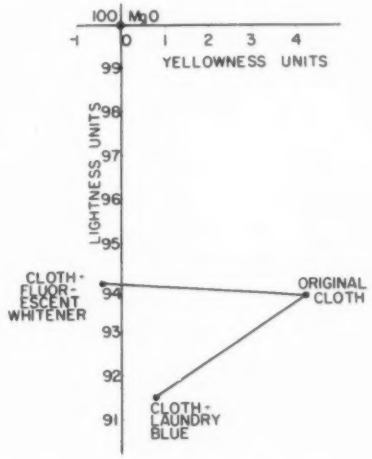
Figure 4. Yellowness and lightness values of old cotton cloth, before and after treatment with laundry blue and fluorescent whitening agent.



Fluorescent Whiteners

(*From Page 56*)

ed, at each wavelength, to the energy arising from the emitted light for the red-shade whitener (Figure 3). The resulting energies were divided, at each wavelength, by Ec to obtain an "apparent reflectance curve" of the cotton cloth treated with fluorescent whitener. Care was taken in adding the fluorescence energies to the reflectance energies to use that amount of fluorescence energy which would produce a fairly linear apparent reflectance curve. This corresponds to adding just enough fluorescent whitener to the cloth to counteract the yellow tinge and obtain a neutral hue.

Calculation of yellowness and lightness values shown in Figure 4: This calculation was made in terms of Adams chromatic-value space. The reflectance (and "apparent reflectance") curves shown in Figure 2 were integrated for Source C illumination, and the tristimulus values were converted to the modified Adams system described by Glasser and Troy (3). L was taken as a measure of lightness, and b was taken as a measure of yellowness.

Acknowledgment

THE writer is indebted to F. G. Villaume and C. B. Villaume for their invaluable advice on brightener evaluation; also, to C. B. Villaume and assistants for making the dyeings and the visual evaluations.

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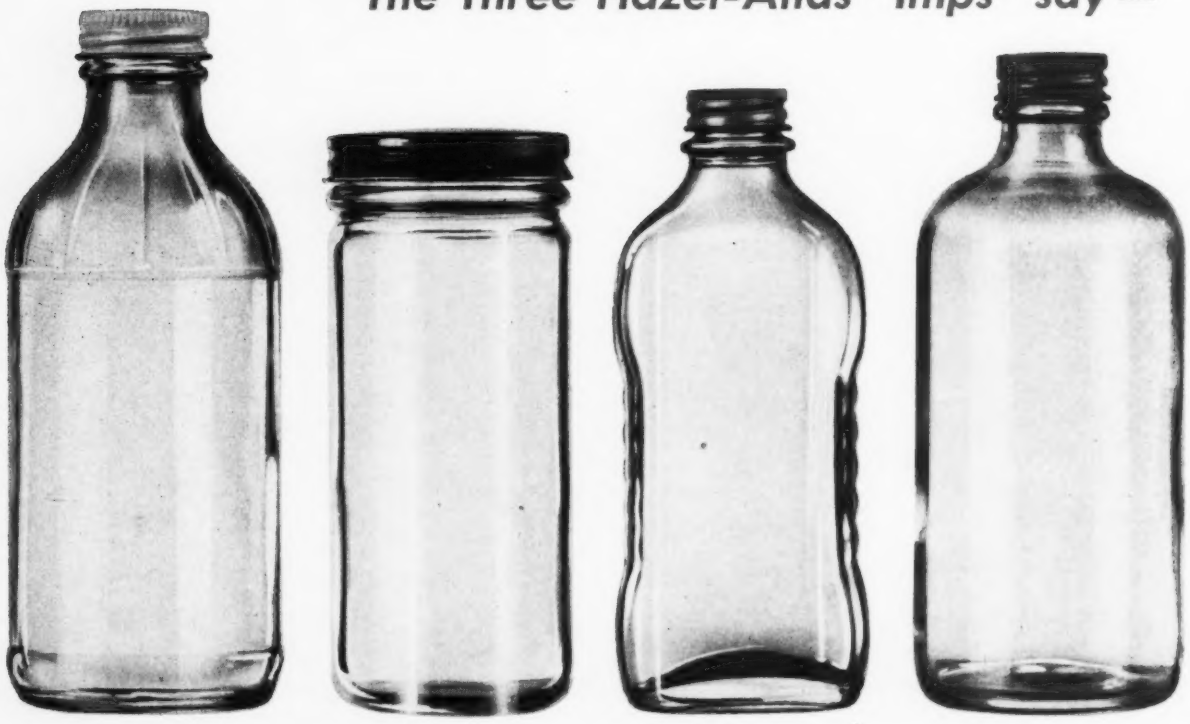

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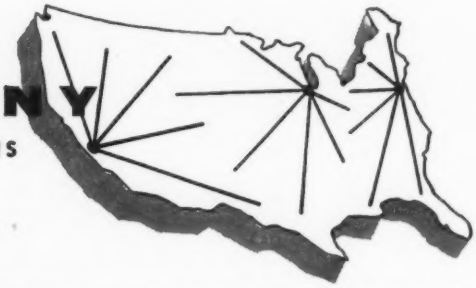

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Metal End FIBRE CANS

A STRONGER PACKAGE

Wilt and sag proof! This convolutely-wound fibre container makes a stronger package with built-in durability to resist wet hands in the kitchen and bathroom—right down to the last sift!

A NEATER PACKAGE

Your label has its best appearance on an R. C. convolutely-wound can because it is applied dry, without gum. The adhesive is on the body of the fibre can. No moisture will affect its appearance, giving the product top shelf appeal.

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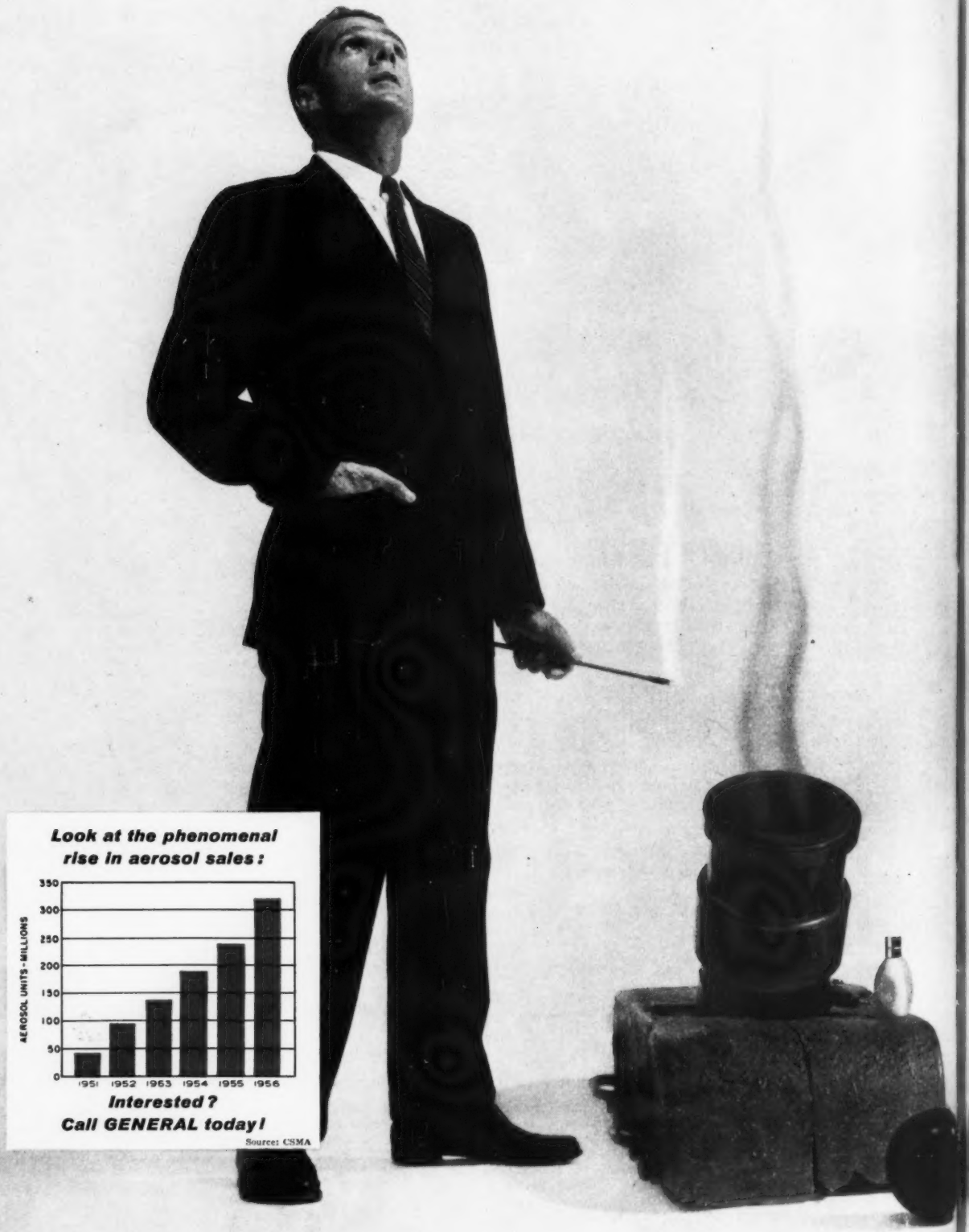
AEROSOL


Look at the phenomenal rise in aerosol sales:
AEROSOL UNITS - MILLIONS
350
300
250
200
150
100
50
0
1951
1952
1963
1954
1955
1956
Interested?
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Source: CSMA

PACKAGING

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Had your eye on aerosols? Then you've seen sales shoot from 40 million units in 1951 to 320 million units in 1956. Aerosol sales have shown a steady increase of about 30% every year since '51!

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If your product can be sprayed, brushed on, dusted or daubed, it's a likely candidate for aerosol packaging. General Chemical will help you develop a formulation with the right pressures and compatibilities for your product and container. *No cost or obligation!* And there are many capable contract fillers throughout the country who will put up your product in aerosol form for test marketing, and handle commercial production afterwards. You do not have to invest in plant, special equipment or personnel to get into aerosols!

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...because they are chemically inert

GLASS containers are chemically clean and chemically stable. They add nothing, take away nothing from the contents. They prevent evaporation, leakage or absorption of moisture. The purity, strength and other qualities that characterize chemical specialties are protected until the package contents are entirely used. And glass containers invite product inspection, afford a visual inventory, inspire confidence for your product quality. Pack your products in Anchorglass® packages. You will move more of your products by doing so.

ANCHOR HOCKING

GLASS CORPORATION

Lancaster, Ohio

European production and consumption of

Aluminum Aerosol Containers

By Aksel Taranger*
Aluminum Union, Ltd.
Montreal, Canada

Part II

WE now come to the last but a very important element in the choice of containers, that of aesthetics or sales appeal. As mentioned previously, the aluminum single-piece container is unique. There is no seam other than the joint at the valve seat. It is formed like a bottle with a neck which is drawn in by an ingenious necking process. The opening is the standard one inch. The bottom is domed to add strength against bulging. The can neck may be domed, conical or shaped to correspond to that used in the U.S.A. The outer surface may be lacquer coated, printed in four colors and varnished. The outer decoration must be done on the formed can body and special automatic printing units are available, recently developed in Switzerland.

While today, the speed of printing is low, only 50 cans per minute, new developments may soon permit the use of speeds up to 200 cans per minute. The quality of printing and coating is good. Offset lithography is used.

In addition to the special advantage of aluminum in that it may be formed with an integral bottom like a bottle, there is another feature of the material which should appeal to the container consumer interested in sales appeal. An aluminum container, whether impact extruded or drawn in a press may, in an additional operation, have the walls bulged, fluted, ribbed or formed to suit individual artistic conceptions. While aluminum shares this property with glass and plastic containers, only aluminum combines a high degree of strength with a forming property. When choosing a container, aluminum should certainly be carefully considered. The present higher cost compared with tinplate cans will often be offset by its many advantages, particularly that of sales appeal.

Aluminum Container Use

FOR the sake of brevity, I have chosen for this report the countries which are most advanced in the production and use of aluminum aerosol containers. These are: Italy, Switzerland, United Kingdom and Germany. Such containers are also produced in France, based on Swiss experience, and in Holland. All these countries export such containers, empty and filled, to most of the Western European countries and to Africa.

Italy: In this country the price of aluminum containers com-

* A paper presented during the 43rd midyear meeting of the Chemical Specialties Manufacturers Assn., Chicago, May 21, 1957. Mr. Taranger is head of aluminum packaging and development of Aluminum Union, Ltd., which is a subsidiary of Aluminum, Ltd.

Table 2. Details on types of aerosol containers produced in Italy by two prominent manufacturers. Note: "Corrugated" means shape of neck as used by Crown Can Co. in the U.S. "Stepped" may be equally descriptive. "H" is always used to designate the height of straight wall, not the overall height of the container.

Volume (oz)	Company A				Company B			
	Dimensions		Design	Type of Neck	Dimensions		Design	Type of Neck
	O.D. mm	H. mm			O.D. mm	H. mm		
12 appr.	58	155	Monobloc	Domed				
12 "	58	160	"	Corrugated				
6 "	50	128	"	Domed				
6 "	50	128,5	"	Corrugated				
4 "	50	94	"	Corrugated				
3 "	44	78,5	"	Domed				
8 "					55	143	Monobloc	Domed
8 "					55	120	Two Piece	Corrugated
8 "					50	145	Two Piece	Cone (Spec.)
10 "					58	156	Monobloc	Domed
6 "					53,2	118	Two Piece	Corrugated

"Ed, what did you do about that contamination problem in the drums on the new line?"

"We purchased J&L containers with a new treatment of the steel surface recommended by their representative. The problem's solved—they certainly talk our language."

- J&L specialists, backed up by modern research, are ready to consult on your toughest packaging problems.
- J&L, an integrated steel producer, controls container quality from start to finish.
- J&L steel containers provide engineered packaging for dependable transportation and safe storage.
- Precise fabrication and correct specification of fittings and closures.
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pares well with that of tinplate, and an added inducement is the re-use value of the can when collected or used in the household or the value as scrap. The Italian housewife counts her pennies. Manufacture started in 1953 and has been increasing.

In all, seven million aerosol containers are filled annually in Italy and this quantity is increasing. All seven million are in aluminum containers. 4.5 million units are for insecticides. The weight of aluminum used for the manufacture of such containers is 200 s.to. approximately (440,000 pounds).

Italian aerosol products include: insecticides, space deodorants, hair lacquers, brilliantines, sun-tan oils (alcoholic and non-alcoholic), tooth pastes, nail polish dryers, gun lubricating oils, artificial snow, shaving creams.

There are seven loaders for cold type and pressure filling, of which three are custom fillers. Four types of valves are made in Italy, of which two are under license from U.S.A. firms. The metal for such valves is aluminum for containers of the same metal. This is done to avoid electrolytic corrosion. The propellant is of the fluor-chlorinated hydrocarbons group: "Freon," "Genetron" (U.S.A.), "Frigon" (Germany), "Arcton" (U.K.) and "Algofrene" (Italy). In some instances methyl chloride is added.

The use of internal lacquer coats is limited to a few products, particularly sun-tan sprays and shaving creams.

It seems that the use of monobloc containers is winning at the expense of the two-piece type. An interesting innovation is the use of a metal or plastic cap with a tear-off seal, to protect the valve from accidental release in transport to the customer. When opened for the first time, the tab on the seal is used to remove it, the metal or plastic cap is then free to be lifted and replaced after use. This is a low-cost and efficient method of protection.

(Details of the type of container produced in Italy by the two prominent manufacturers are given in Table 2.)

Switzerland: The manufacture of aluminum aerosol containers began in this country in 1956. It is claimed that today aluminum is the material used for at least 2/3 of the total of 700,000-750,000 aerosol cans used. No tinplate containers are known to be manufactured locally.

There exist about a half-dozen loaders, of which the greater part are custom fillers, who also fill their own products.

The aluminum containers are used for many products but the following are certain: insecticides, moth killers, artificial snow, hair lacquer, brilliantine, space deodorants.

In Switzerland propellants are similar to those in America. In order to provide strength, the seamed bottom ends are of aluminized steel (Ferran), additionally lacquered on the inside to avoid corrosion. Monobloc containers are not yet commercially available in this country. In Italy, both tinplate ends and aluminum alloy

Volume (oz)	Company A			
	Dimensions		Design	Type of Neck
	O.D. mm	H. mm		
18 appr.	65	150	Two Piece	Cone
12 "	65	110	Two Piece	Cone
12 "	52	160	Two Piece	Cone
6 "	52	95	Two Piece	Corrugated
6 "	52	105	Two Piece	Cone

Table 3. Types of aluminum aerosol containers being made in Switzerland.

Table 4. Types of aluminum containers being manufactured currently in the United Kingdom.

Volume (oz)	Company A				Company B			
	Dimensions		Design	Type of Neck	Dimensions		Design	Type of Neck
	O.D.	H			O.D.	H		
16 appr.	2½"	7"						
10 "	2½"	4 3/16"	Two Piece	Cone				
6 "	2"	3 7/8"	Two Piece	Cone				
6 "					2"	3 15/16"	Two Piece	Cone
6 "					2"	3 3/4"	Two Piece	Corrugated
5 "					2"	3 3/4"	Two Piece	Cone
4 "	2"	3 7/16"	Two Piece	Cone				
3 "	2"	2½"	Two Piece	Cone				

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can with CROWN Spra-tainers

. . . the only source for both seamless and fabricated pressure cans. For picnic fire starters . . . or for fire extinguishers, and hundreds of similar applications . . . *can* with CROWN.

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MANUFACTURERS OF CLOSURES, CONTAINERS AND MACHINERY

ends are being used for the two-piece types. Germany follows Swiss practice, i.e., the use of aluminized steel for ends; in fact, this idea originated in Germany.

The Swiss manufacturer feels that all products presently marketed may be safely packed in containers anodized inside and outside. However, he is prepared to lacquer the inside as well should the customer so wish. The guarantees accepted by the manufacturer for two-piece cans are as follows:

(1) A completely leak-free seal of the aerosol valve to the container.
(2) Complete resistance to corrosion of the can by the pack based on acceptance in packing tests.
(3) Resistance of the decorative base coat and printing inks on the outside of the cans to temperatures of 60° C, i.e., such as are encountered during the pressure testing of the product in a water bath, coupled with resistance of the decoration to the product and solvents used in the propellant.
(4) A resistance to internal pressure of a minimum of twelve atmospheres.
(5) Standard valve seat opening of one inch.
(6) Resistance to crushing by a load of 900 kilos applied to a 12 ounce can.

These requirements seem to be severe enough to justify the statement that the aluminum container has been developed into a highly satisfactory product.

The spread to France and Holland of the Swiss technique of making such containers is assured, and the rapid extension of their manufacture is confidently awaited.

(The types of aluminum containers made in Switzerland are shown in Table 3.)

United Kingdom: While aluminum containers dominate the aerosol markets in Italy and Switzerland this is not so in U.K. Of the total consumption of some 10,000,000 containers in the U.K., only 1,500,000 are made of aluminum. Six ounce tinplate containers are reported to be two-thirds the price of aluminum containers. Both types are complete with valves. A 12 ounce aluminum container with valve costs twice as much as its counterpart in tin. In spite of this large price difference, aluminum cans are still in demand. Sales appeal is probably the greatest contributing factor. The largest tin and aluminum can manufacturer in the U.K. has contributed the bulged wall designs shown in photographs accompanying this article. It is interesting that a tin can manufacturer should be the one to lead in aluminum wall design.

Propellants used in Britain are similar to those used elsewhere and the list of pressure packed products is quite extensive. It includes:

shaving creams	mold release
hair lacquers	penetrating oils
insecticides	lubricating oils
oven cleaners	moth killers
hand creams	horticultural sprays
sun tan spray	artificial snow
insect repellents	personal deodorants
pet shampoos	paints

Aluminum containers are used mainly for the luxury type aerosol products, particularly cosmetics.

For internal protection, where needed, lacquers based on epoxy resins are favored.

The container types manufactured today in U.K. using aluminum are listed in Table 4. They are all two-piece cans.

Germany: The data on the total consumption of aerosol dispensers in Germany in 1956 varies somewhat. The numbers given in Table 1 are the means of figures taken from several sources. Whatever the total number, about 1,500,000 aluminum containers were used for aerosols, or between 25 to 40 per cent of all containers used. My information is that both sales of aerosol products and those packed in aluminum containers are on the increase. A 10 per cent increase in the percentage of aluminum aerosol containers in 1957 is anticipated. This is encouraging for the aluminum industry, particularly since steel containers, with welded side seam and built-in valves, are very inexpensive.

All German made aluminum containers are of the two-piece type. They are produced in four sizes: three, six, 12 and 18 ounces. The outside diameters of the bodies are, respectively, 1⅜, 2 and 2½ inches for the 12 and 18 ounce sizes.

The necks are stepped cones except for the three ounce size, which is provided with a plain cone neck, ending in an integrally formed and protruding valve seat, with an opening 7/16″ in diameter for the bottle type valve.

The ends are made either from Feran (aluminized) steel strip, from aluminum alloys or tinplate. In the two former cases the ends are always lacquered, in the latter case they may be lacquered or not. German practice is to use inside

(*Turn to Page* 151)

Group of aluminum aerosol containers showing design and decorative possibilities.

Imagination

AN INTEGRAL PART OF THE CONTAINER WHEN MARYLAND GLASS TAKES OVER YOUR DESIGN PROBLEM!

When you drop a packaging problem in our lap, the end result is more than a glass container. It is an *idea* . . . born of restless imagination, shaped by skilled hands, backed by years of sound experience. Our creative staff gives you a selling package that packs well, ships well and pushes your product on the shelf. For a successful solution to your design problem, contact MARYLAND GLASS CORPORATION, 2147-53 Wicomico St., Baltimore 30, Md.

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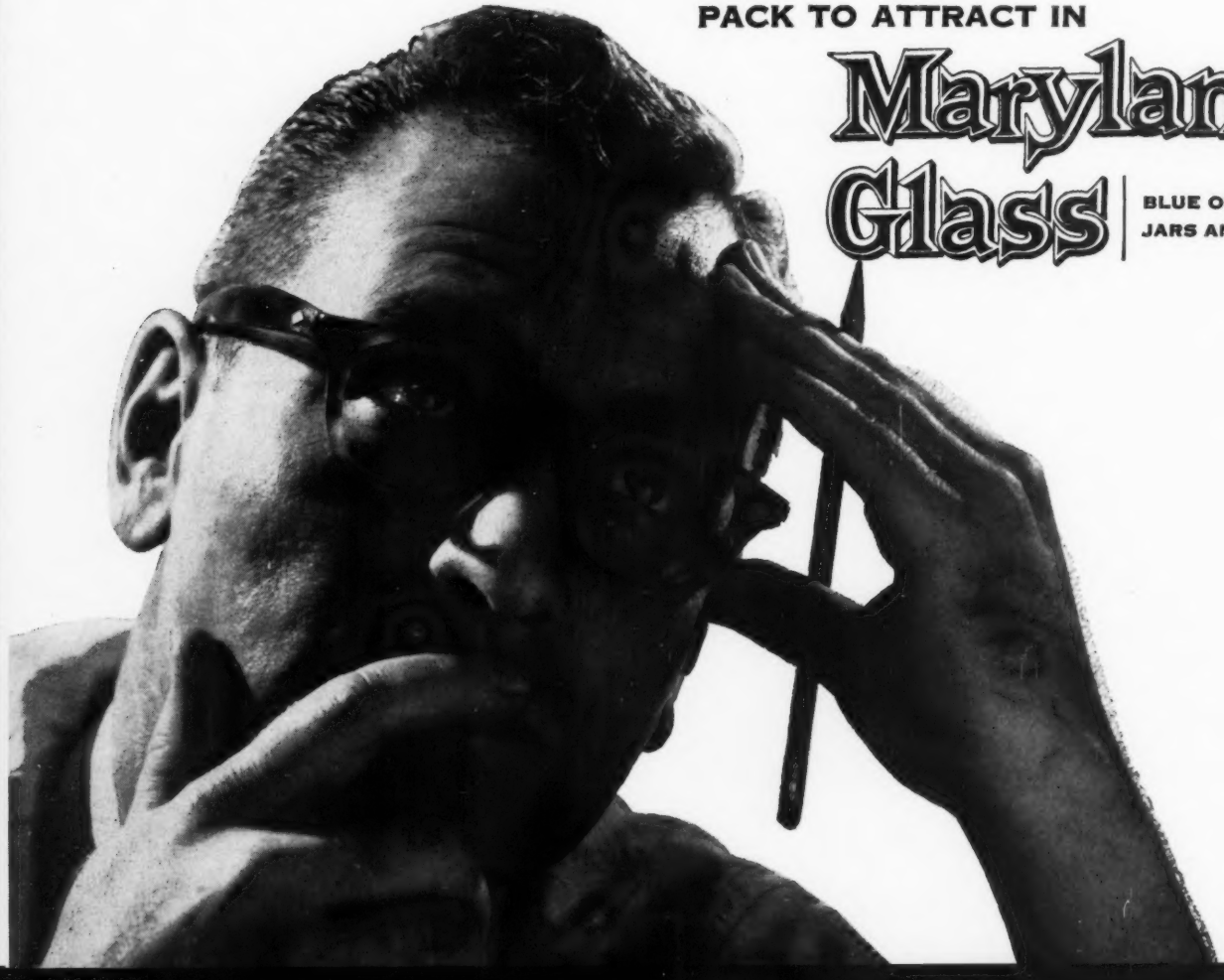
BLUE OR FLINT JARS AND BOTTLES



Packaging NOTES

GCMI Meets, Elects Ball

Edmund F. Ball, president and chairman of the board of Ball Brothers, Inc., Muncie, Ind., was

Edmund F. Ball

elected president of the Glass Container Manufacturers Institute, Inc., at the organization's annual meeting held recently at the Greenbrier Hotel, White Sulphur Springs, W. Va.

J. S. Heuisler, president of Maryland Glass Corp., Baltimore, was elected first vice-president and F. N. Dundas, executive vice-president of Dominion Glass Co., second vice-president at the three-day meeting attended by more than 300 executives and their wives.

With Ball Brothers since 1928, Mr. Ball was named vice-president in charge of glass operations in 1940, after a series of managerial and production assignments. He was named executive vice-president in charge of all activities in 1946 and three yars later became president, succeeding his uncle, George A. Ball. The elder Mr. Ball was one of five brothers, who founded the company in Buffalo, N. Y., in 1878.

★

J. Walter Wilson Dies

J. Walter Wilson, 90, formerly chairman of the board of J. W. Wilson Glass Co., Brooklyn, N. Y., died July 15 at All Souls Hospital, Morristown, N. J. Mr. Wilson had been a resident of a nursing home in Madison, N. J., in recent years.

★

Bradley Names Two

Howard K. Gray and M. Walthall Turner have joined the sales staff of Bradley Containers Corp., Maynard, Mass., it was announced recently by Henry E. Griffith, vice-president of sales. Mr. Gray, who will headquarter in New York, formerly was associated with J. P. Stevens, Inc. Mr. Turner previously was with Marketing Agents, Inc. He will headquarter in San Francisco.

★

To Judge Package Contest

E. H. Balkema, a general purchasing agent of Colgate-Palmolive Co., New York, has been appointed a judge for the fourth annual 1957 Fibre Box Competition to be held in Washington, D.C., Oct. 17-18. The contest is sponsored by the Fibre Box Association. It will feature the latest developments in corrugated and solid fibre boxes, which are used for shipping more than 90 per cent of the nation's domestic packaged goods. More than 600 boxes are expected to be entered in ten different end use classifications and six specialty classes.

★

Dow, Dobeckmun Merger

Merger of Dow Chemical Co., Midland, Mich., and Dobeckmun Co., Cleveland, was approved recently by the boards of directors of both companies. The proposal is subject to ratification by Dobeckmun stockholders at a meeting to be held in Cleveland, Aug. 30. If the proposal is approved, Dobeckmun would continue to operate under its present officers and the firm would be known as Dobeckmun Co., a division of Dow Chemical Co.

Dobeckmun manufactures flexible packaging, gift wraps and metallic yarns and has plants in Cleveland, Berkeley, California, and Bennington and Wells River, Vermont.

★

Canco Names Wardell

James W. Wardell has been named general sales manager of its non-food container division, it was

James W. Wardell

announced recently by American Can Co., New York. Mr. Wardell formerly was sales manager in charge of the New York metropolitan district. He succeeds William F. May, who recently was named manager of manufacturing for Canco's central division.

Mr. Wardell joined the company in 1932 in the engraving department. Between 1935 and 1943 he held various posts in both the New York and Philadelphia sales offices. He was transferred to the central division in 1946 and two years later was named regional sales manager of the Kansas City, Mo., office. He became commodity manager of the central division's non-food sales in 1952.

★

Harris Forms New Firm

Formation of Harris Containers, 307 East 4th St., Cincinnati 2, was announced last month by A. J. Harris, founder. The new concern will represent many of the nation's leading producers of fibre and plastic containers and will maintain plants in Rittman, O.; St. Louis; Turner, Kans., and Arlington, Tex. Mr. Harris formerly was associated with Cin-Made Corp., Cincinnati.

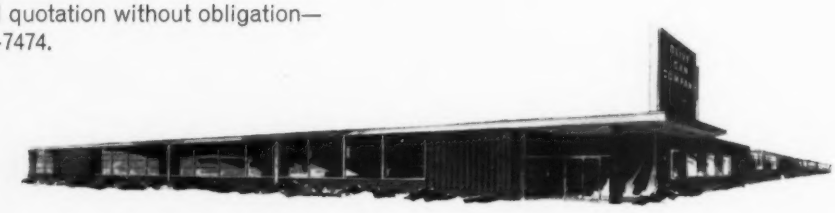
it's a merchandising fact...

A colorfully designed container can give your product a real sales "boost"—spark more impulse sales—win quick-as-a-wink identity over competition.

If you've got the "stuff" that keeps a product sold, we've got the "stuff" to design, create and produce a sales winning container for you.

Choose from our 45 year file of stock design tins in round, square or oblong shapes—or let our engineering, art and lithography experts create a special container to your individual requirements.

For further information and quotation without obligation—write or phone UNderhill 7-7474.



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A new crimper for glass aerosols, recently introduced by Mojonnier Associates, Inc., Franklin Park, Ill., features two newly-developed collets for coated and uncoated glass and two sizes of valves for nylon-type bottles. Collets are designed to attach to Risdon "JBR" powder valves to both neck diameters of "Peerless Tube."

Peterson in New Post

Election of Paul S. Peterson to the newly-created position of executive vice-president of DeMert & Dougherty, Inc., Chicago, was announced recently by the company's board of directors. In his new post, Mr. Peterson will be responsible for matters of policy concerning procurement, production and maintenance of all D&D plants.

With the company since 1937, Mr. Peterson has held various managerial posts, including plant superintendent, production manager and executive vice-president in charge of the Chicago, St. Louis and Kansas City, Mo. plants. Prior to joining D&D, he served with U. S. Industrial Chemicals, Inc., Peoria, Ill.

Paul S. Peterson

—★—

Husted Joins Carbide

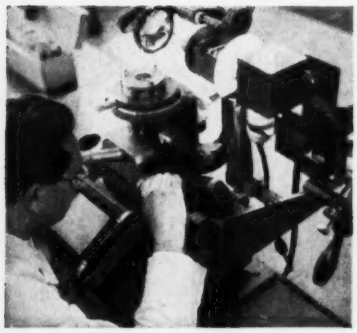
Elbert E. Husted has joined the fluorocarbon sales department of Union Carbide Chemicals Co., New York, it was announced last month by John A. Field, vice-president. Mr. Husted will be concerned primarily with sales of fluorocarbons for use in aerosols.

A new aerosol degreaser, designed to remove grease, oil, carbon and tar, was introduced recently by Stewart-Hall Chemical Corp., Mount Vernon, N.Y. Called "Zipp," the product is claimed to be suited for automobile motor cleaning, electrical equipment cleaning, and for removal of tar and grease from painted surfaces and concrete floors. Package is by American Can Co., New York.

Nestle-LeMur Co., New York, recently adopted two new four and eight ounce aerosol containers by American Can Co., New York, for its regular and soft-type hair syrays. Both products, which will retail for 49 and 69 cents, respectively, will be marketed nationally through supermarkets, drug and variety stores. Nestle-LeMur also offers both products in 12 ounce can for 89 cents.

A new foaming window spray, packaged in a 16-ounce aerosol container, was developed recently by Krylon, Inc., Norristown, Pa. Tradenamed "Clearex," the product is designed for use on automobile windows, television screens, mirrors and chrome and tile surfaces. Package is by Continental Can Co., New York; filling by Krylon.

OWENS-ILLINOIS ASSURES YOU A



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Pure research into formulae and fabrication of glass, *packaging research* into processing and handling methods in customer plants, and *market research* into consumer attitudes, add up to greater specific value for your packaging dollar.

Engineered Design

The package that takes your product to market must take *three* needs into account. Considerations of its function in the retail store, its operating efficiency and its consumer utility all become a part of the prescription for an Owens-Illinois package.

The Right Container

Facilities at Owens-Illinois are versatile. Talents are varied and many. So you can count on obtaining a container exactly suited to your needs—one that blends salesmaking beauty, product protection and utility in the proportions required to attract customers.

Air Freshener or Disinfectant—

COMPLETE PACKAGING APPROACH

The Right Closure

Know-how as to the best available liner and closure—best for packing, displaying, or using a specific product—may well be one of the most important single points through which expert packaging counsel will reward you many times over.

Needed Fitments

With emphasis on the word "needed," Owens-Illinois specialists are keenly aware of sales benefits possible through use of plastic shaker and pour-out fitments which are not "gadgets" but which increase consumer satisfaction with your product.

Merchandising Cartons

Modern cartons are developed only through systematic consideration of their opportunity to serve you in the retail store and retail warehouse as well as on your own filling line and in transit. Owens-Illinois is pioneering such developments.

help yourself to sales...

with an Owens-Illinois package that sells through convenience in use

IMPULSE BUYING plus product recognition is largely responsible for the record increase in store sales.

Marketing your product in a well-designed and engineered glass container puts your merchandise up front in the sales parade.

Glass can be designed and molded into a salespackage to catch the customer's eye in advertising campaigns as well as in the store where sales are made. Glass also is an efficient salesman when it comes to convenience and product protection. The quality of the contents is maintained throughout many openings and closings. The housewife can readily see how much she has left.

Skilled packaging designers at Owens-Illinois will gladly help you create a sales-making label and closure combination for your product. There are hundreds of different sizes, styles and shapes of stock-model bottles from which you can choose.

DURAGLAS CONTAINERS
AN (I) PRODUCT

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GENERAL OFFICES · TOLEDO 1, OHIO

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Success for Sunsters

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Why have these leaders of famous brand names picked BRACON squeeze-to-use tubes and bottles? Because they have natural consumer appeal *without* premium price . . . easy-going displayability . . . and striking color and design effects. Many have a special interior coating to retain product freshness and essential oils.

Practical everywhere, for BRACON tubes never roll up . . . dent . . . crack or tear. Squeeze anywhere for just the right amount of product . . . package always stays neat and clean.

BRACON squeeze-to-use tubes, bottles and cans are partners with all types of liquids, creams and powders in all basic markets. Let us show you how they can serve your products.

BRADLEY CONTAINER CORPORATION
A SUBSIDIARY OF AMERICAN CAN COMPANY
Maynard, Mass. — *New York, Chicago, Los Angeles, Toronto*

Lord Baltimore to Expand

Lord Baltimore, Inc., Baltimore, recently announced plans for construction of a new folding box and label plant at a newly acquired 12½ acre site at Clinton, Ia. According to Leonard Delsemer, executive vice-president, the new unit will be completed in 1958. A one-story structure, it will contain 80,000 square feet of floor space, designed so that it may be expanded to 200,000 square feet. The plant is equipped with the latest lithographic and box manufacturing equipment.

—★—

FPBA Names Smith

Perry L. Smithers has been named director of public relations for the Folding Paper Box Association, Chicago, it was announced recently by Gustav L. Nordstrom, executive director. For the past seven years, Mr. Smithers has been manager of the office of public information of the Navy Pier branch of the University of Illinois.

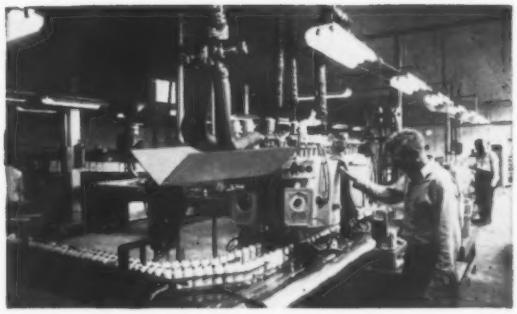
—★—

New "Rajah" Tape

A new polyethylene-cellophane transparent tape, called "Rajah," was introduced recently by General Tape Corp., St. Paul, Minn. The product contains 60 per cent polyethylene, 40 per cent cellophane, and is said to compare favorably in both price and stability with industrial cellophane tapes now on the market. It is available in rolls of 2592 inches in length and widths of ⅜, ½, and ¾ inches and one inch.

Put *Your Product* Into These Pictures

Experts on Sales, Production and Testing reach a joint decision on the adaptability of a product to packaging in the modern way.



High-speed filling techniques keep supplies of your packaged products ahead of demand.

Because consumers are increasingly concerned with convenience and ease-of-use, aerosol and pressurized packaging is boosting sales for hundreds of products... from insecticides to hair lacquers... from perfumes to mothproofers... from shampoos to hand lotions... from deodorants to shaving lathers.

Let us test your product to determine its adaptability to packaging the modern way. We'll do the research in our modern laboratory at no expense or obligation to you. Then we can sit down with you for a frank discussion of exactly what facilities we have to offer in production, quality control, storage and shipping.

To put your product into these pictures, write, wire or 'phone ... you'll find it worth your while.

PETERSON
Filling and Packaging Co.
HEGELER LANE • DANVILLE, ILLINOIS

Canco's sensational new

NON-DRIP CAN

now available for...

DISINFECTANTS, CLEANERS, LUBRICATING ADDITIVES,
INSECTICIDES, DETERGENTS, POLISH, WAX AND
HUNDREDS OF OTHER SPECIALTIES !

Use it to give new sales life to an old product . . . or to get a new one off with a big head start!

It's another "first" from Canco—a can with a completely dripless nozzle. It pours freely, instantly, yet it won't drip a drop when the can is righted. But that's not all!

This new can takes full decoration all the way around *and on the top*, thanks to Canco's special side-seam and top construction. It's quick, easy, and economical to fill . . . it's lighter, handier, unbreakable, too. In short, it's packed with features that you, your dealers, and your customers will like.

If you manufacture or distribute one of the specialties listed above or one like it, find out *now* how this new Non-Drip Can will help broaden your market, increase your sales. Contact your nearby Canco representative today.

MEMBER
19th Annual Forum
Oct. 28, 29, 30, 1957
Hotel Statler
New York City

AMERICAN CAN COMPANY
NEW YORK • CHICAGO • SAN FRANCISCO

COME TO CANCO FIRST !

What's New?

New "Sebb" shampoo was announced recently by Max Factor & Co., Hollywood, Calif. Designed for the treatment of dandruff and oily and itchy scalp, the product comes in a six-ounce polyethylene squeeze bottle and retails for $1.25. Bottles are packed 12 to a carton. A special floorstand display unit containing six cartons is available to dealers.

"Praise," a new deodorant bath and toilet soap containing cold cream, was introduced last month by Lever Brothers Co., New York. Pink in color, the new product is packaged in a foil jacket of red, gold and white, with a background of pink, and has a fragrance of floral bouquet blended with an aroma of spice. "Praise contains a new anti-bacterial ingredient called "Formula 36," to control skin bacteria responsible for body odor. Retail price is two for 27 cents for the regular bar and two for 39 cents for the bath size.

A new seven and one-half glassine lined, carry-home, corrugated box recently was adopted by Jewel Tea Co., Melrose Park, Ill., on behalf of its "Won" detergent. The container features four-color printing — red, black and light and dark green — a special die-cut handle to facilitate carrying, and a tear tab for easy opening. Containers are packed six to a master unit for shipment.

calgonite
for MACHINE DISHWASHING
Calgolac
THE SUDSLESS CLEANER for HANDWASHING of GLASSWARE
Aura
for MACHINE DISHWASHING
Pinnacle
for HANDWASHING of DISHES · POTS · PANS WALLS and FLOORS
NEW BLUE NOCA
for HANDWASHING of DISHES · POTS · PANS and GENERAL KITCHEN USE
NEW PINK CALADE
for HANDWASHING of DISHES · POTS · PANS and GENERAL KITCHEN USE

Newly-designed packages for six of its commercial and institutional detergents, have been adopted by Calgon Co., a division of Hagan Chemicals & Controls, Inc., Pittsburgh. Created by Reynolds Metals Co., Louisville, the packages match the product's color and reflect its sudsing characteristics by incorporation of bubbles into the carton design. Products included in Calgon's new packaging program are: "Pinnacle," an all-purpose detergent in a light green container; "Aura" and "Calgonite,' machine dishwashing compounds, identified by royal purple striped packages; "Calgolac," a sudsless cleaner for washing glassware by hand, in a bright red package; and "Blue Noca" and "Pink Calade," sudsing compounds for handwashing dishes and pots and pans.

A new insecticide spray, developed by Green Thumb Products, Inc., Toledo, is designed to control various types of insects and is recommended for use on African violets, roses, geraniums, peperomia, jade plant, kalanchoe, sanderiana, palms, ivies and many other plants and flowers. Tradenamed "Green Thumb" insecticide spray, the product controls both chewing and sucking insects. It is packaged in a four-ounce, sprayer-type Owens-Illinois bottle and retails for 59 cents.

Right: "Stop-It", a new silicone-based protective coating for use on suede leather and fabric shoes, was introduced recently by Chemi-Chrome Chemical Specialties, Washington, D.C. Said to be nonflammable, product is designed to keep shoes dry from rain and dew and to prevent leather from drying out. It will be marketed nationally through drug, hardware, grocery and shoe stores.

MIST SACHET of Lady Lavender SPRAY DELIGHTFULLY FRAGRANT
MIST FRAGRANCE OF PINE SPRAY CLEAN and FRESH DELIGHTFULLY FRAGRANT
MIST FRAGRANCE OF CEDAR SPRAY • LASTING • NATURAL • CLEAN • FRESH

A new aerosol room deodorant, in three scents was introduced recently by Krylon, Inc., Norristown, Pa., for Robinco, Inc. The product comes in lavender, pine and cedar fragrances and is packaged in a six-ounce aerosol container by Crown Cork & Seal, Inc., Philadelphia. Filling is by Krylon. Product, which retails for 98 cents, will be marketed nationally through department, drug, food, variety and hardware stores.

"Coral," a liquid suds detergent for washing dishes by hand, marketed by Sinclair Manufacturing Co., Toledo, is now packaged in a new 22-ounce non-drip container by the American Can Co., New York. The container features a cemented sideseam that permits all-around lithography.

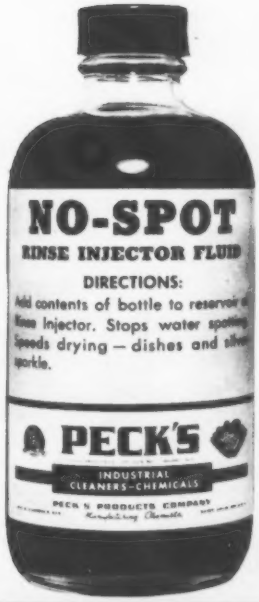
Airkem, Inc., New York, recently introduced a new eight-ounce container for its aerosol insecticide. The new package emphasizes the nontoxic qualities of the product which is designed to control flying insects. Airkem previously sold the insecticide in 12 and 16-ounce cans. It will be marketed through sanitary supply jobbers and distributors. Container is supplied by American Can Co.

Brillo Manufacturing Co., Brooklyn, N.Y., recently adopted a new white, red and black package for its white wall tire "Jumbo" cleaning pads. One package contains four large soap-filled pads and is designed to provide solid and attractive base for dealer's floor display.

New all-purpose carpet cleaner and spot remover, said to de-moth as it cleans, was developed recently by U.S. Tackless, Inc., Bronx, N.Y. Product is packaged in pint, quart and gallon screw-top containers.

Sinclair Manufacturing Co., Toledo, is now marketing its liquid dishwashing detergent, "Sprite," in dripless metal containers by American Can Co., New York. Product comes in 12 and 22-ounce lithographed cans with cemented sideseam. On the market since 1948, "Sprite" previously was packed in glass bottles.

"No-Spot" rinse injector fluid for electric dishwashers, manufactured by Peck's Products Co., St. Louis, is claimed to prevent water spotting and speed drying. Product is available in eight ounce glass bottle.



Aumend in Lynch Post

Rex Aumend has been named southwestern district sales manager for Lynch Corp., Anderson, Ind., manufacturer of packaging machinery and materials handling equipment. Mr. Aumend will headquarter in Kansas City, Mo. He joined the company in 1938 and previously had been service manager of the compressor and packaging divisions. The southwestern district includes Colorado, Iowa, Kansas, Missouri, Nebraska, New Mexico, Oklahoma, Texas and Wyoming.

★

Anchor-Hocking Earns More

Anchor Hocking Glass Corp., Lancaster, O., increased its income and earnings for the first half of 1957. Net income for the six months ended June 30 was $3,685,207, equal to share earnings of $2.50, compared with $3,079,002 and $2.07 in 1956.

Quality Made
Dependable Service
SIZED and STYLED for YOUR PRODUCT

Steel Pails and Drums—Sizes 1 through 22 gallons. Open-Head. Closed-Head. All types Pouring Spouts.

Hi-Bake Lining (when specified) Lithographing in full-color—non-mar finish. Reproductions—or our artists will design for you.

Sales Offices and Warehouses in principal cities. Full line Warehouse stocks. Immediate delivery —AT ALL TIMES. Samples, prices on request.

VULCAN STEEL CONTAINER CO.
Main Office and Factory
3315 35th AVE., N. • P. O. BOX 786 • BIRMINGHAM, ALABAMA

Heads Gaylord Division

Lloyd Merwin has been elected vice-president of Crown Zellerbach Corp., San Francisco, and general manager of converted products for the firm's Gaylord Container Division. Mr. Merwin formerly was Gaylord vice-president in charge of Texas operations, with offices in Houston. In his new post, he will be responsible for Gaylord's 62 sales offices and 17 converting plants. He will headquarter at the division's main office in St. Louis.

★

More du Pont Cellophane

E. I. du Pont de Nemours & Co., Wilmington, Del., recently announced that its new cellophane plant in Tecumseh, Kans., is expected to be on stream late in 1958, several months ahead of the original schedule. Projected production capacity of the unit will be 50 million pounds of cellophane a year. Du Pont's four currently operating cellophane plants have a combined annual capacity of 30 million pounds.

★

O-I Advances Graham

Election of Robert E. Graham as a vice-president of Owens-Illinois Glass Co., Toledo, was announced late last month. Mr. Graham also was appointed general manager of the eastern glass container division. He will be responsible for all sales and manufacturing operations east of the Rocky Mountains. He formerly was manager of the division's sales office in New York.

★

Metal Can Output Higher

Production of metal cans in March totaled 2.8 billion units, an increase of 15.5 per cent over February, it was announced recently by American Can Co., New York. The March figures, however, represent a decline of 5.1 per cent from total metal can production in March, 1956. Major factors in production rise for March over February, Canco said, were gains in the manufacture of food and beer cans.

Romance!

In the cosmetics industry, romance is probably the greatest single sales-motivating force. And the cosmetics chemist knows that fragrance plays a dominant part in her selection of cosmetics.

That's why so many manufacturers who are meticulous about fragrance use Verona extenders and developers to bring out the latent brilliance of the compound . . . *and save money in the process!*

Send for samples of some of the Verona specialties listed at the right — and see for yourself how effectively they help you hit — and *hold* — the high notes!

A FEW VERONA SPECIALTIES

RESEDALIA, an acetal.
VERONOL, an aldehyde.
CYCLAMAL, cyclamen aldehyde.
ROSANOL, an acetal.
PHENYL ACET ALDEHYDE PHENYL GLYCOL ACETAL
TERTIARY BUTYL DI METHYL CUMARIN
BERGAMOT SYNTHETIC, P-1104.
FLOWER OIL WHITE LILAC.

VERONA

VERONA PRODUCTS BUILD SALES FOR *Your* PRODUCTS

VERONA CHEMICAL COMPANY Plant and Main Office: 26 Verona Avenue, Newark, N. J. 1210 Rosedale Avenue, Chicago, Ill.

IMITATED...BUT NEVER DUPLICATED IN PERFORMANCE–

THE *Precision Valve*

We, at Precision, are justifiably proud of the performance record that the Precision Valve has achieved in the hands of thousands of users.

Precision is today the largest manufacturer of Aerosol Valves. Largest because of our designing, engineering and manufacturing methods which have created a quality, economical product, that has proved itself in use. Over 500 Million Precision Valves offer proud testimony of our ability to create THE VALVE for your product.

Whatever your aerosol product does... It will do it better with a Precision Valve.

Why not call today... Our laboratory and engineering staffs are available to aid you with your valve requirements.

"Known throughout the World"

PRECISION

Precision Valve Corporation

700 NEPPERHAN AVENUE • YONKERS 3, NEW YORK

NEW Trade Marks

THE following trade marks were published in recent issues of the *Official Gazette* of the U. S. Patent Office in compliance with section 12(a) of the Trade Mark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. See rules 20.1 to 20.5. As provided by section 31 of the Act, a fee of $25 must accompany notice of opposition.

C-Thru—This for cleaner and polisher for glass, enamel, metal and plastic surfaces. Filed Dec. 3, 1956 by Arrow Chemical Products, Inc., Detroit. Claims use since about Nov. 7, 1956.

Wear-Ever—This for floor wax for commercial and industrial use. Filed Dec. 7, 1956 by Texize Chemicals, Inc., Greenville, S. C. Claims use since Aug. 29, 1956.

Wanna — This for automobile cleaning and polishing wax. Filed Feb. 11, 1957 by Tidnley Leon Dix, doing business as Marleo Co., Detroit. Claims use since about Aug. 15, 1956.

Cuprogen—This for algaecide. Filed June 18, 1956 by Miami Products & Chemical Co., Dayton, O. Claims use since May 1, 1952.

Dalpac—This for antioxidant. Filed Jan. 22, 1957 by Hercules Powder Co., Wilmington, Del. Claims use since June 23, 1956.

Ad-A-Glo—This for car wash. Filed Dec. 12, 1956 by John J. Cook Manufacturing Co., Silver Spring, Md. Claims use since Nov. 21, 1956.

Promor — This for wetting agents. Filed Apr. 20, 1956 by Socony Mobil Oil Co., New York. Claims use since Mar. 15, 1956.

Certrex—This for insecticide. Filed Apr. 20, 1956 by Socony Mobil Oil Co., New York. Claims use since Mar. 15, 1956.

P C-1244—This for foam suppressants. Filed May 23, 1956 by Monsanto Chemical Co., St. Louis. Claims use since Jan. 15, 1953.

Homar — This for insecticides. Filed Oct. 12, 1956 by Homar Agricultural Chemicals, Wichita, Kans. Claims use since about Mar. 1, 1955.

Methar—This for weed killer. Filed Oct. 18, 1956 by W. A. Cleary Corp., New Brunswick, N. J. Claims use since July 6, 1955.

Odorette—This for room and closet deodorant. Filed Jan. 11, 1955 by Klasco Products Co., Downey, Calif. Claims use since Dec. 10, 1956.

Delphena—This for insect repellent. Filed Jan. 22, 1957 by Hercules Powder Co., Wilmington, Del. Claims use since Sept. 18, 1956.

Goe—This for cleaner for paint, wax and grease. Filed May 31, 1956 by Hans Guldmann, Jr., doing business as Hans Guldmann Paints-Accessories, Galveston, Tex. Claims use since Dec. 30, 1955.

Lamco — This for insecticides. Filed Nov. 14, 1955 by L. A. Mosher Co., Atlanta, Ga. Claims use since September, 1945.

Andrew Wilson — This for insecticides. Filed Mar. 16, 1956 by Andrew Wilson, Inc., Springfield, N. J. Claims use since February, 1914.

Weed Free — This for weed killer. Filed Sept. 20, 1956 by Chapman Chemical Co., Memphis, Tenn. Claims use since Aug. 15, 1951.

Chipman—This for insecticides. Filed Sept. 27, 1956 by Chipman Chemical Co., Bound Brook, N. J. Claims use since Jan. 6, 1917.

Vertifume—This for grain fumigant. Filed Nov. 28, 1956 by Dow Chemical Co., Midland, Mich. Claims use since Mar 21, 1956.

Sprayway — This for aerosol spray for prevention of mildew and musty odors. Filed Jan. 22, 1957 by Sprayway, Inc., Chicago. Claims use since November, 1956.

Exfoam — This for industrial anti-foam agent. Filed Apr. 12, 1956 by Dearborn Chemical Co., Chicago. Claims use since Apr. 12, 1956.

Arden—This for shaving cream. Filed Apr. 17, 1956 by Elizabeth Arden Sales Corp., doing business as Elizabeth Arden, New York. Claims use since Mar. 19, 1956.

Sweater-Fluff — This for cold water soap. Filed June 4, 1956 by Jevne D. Baskin, doing business as Baskin Laboratories, Minneapolis, Minn. Claims use since Apr. 18, 1956.

Foam Off—This for dry bath shampoo for use on cats and dogs. Filed Dec. 12, 1956 by Whitmire Research Laboratories, Inc., St. Louis. Claims use since Sept. 30, 1955.

Dowfax—This for surface active agents. Filed Oct. 26, 1956 by Dow Chemical Co., Midland, Mich. Claims use since Mar. 23, 1956.

Storize—This for rust and corrosion inhibitor. Filed Feb. 8, 1957 by George A. Barker, doing business as George A. Barker Engineering Co., Washington, D. C. Claims use since Feb. 1, 1957.

Ducair—This for room deodorant. Filed Jan. 28, 1957 by Alex Eventoff, doing business as Ducair Products Co., New York. Claims use since Dec. 10, 1956.

Pexene—This for liquid floor cleaner. Filed Nov. 9, 1953 by Peck's Products Co., St. Louis, Mo. Claims use since 1950.

Tersaseptic — This for antiseptic soapless cleaner. Filed June 7, 1956 by Doak Pharmacal Co., New York. Claims use since Mar. 29, 1956.

Fugitivsuds—This for laundry detergent. Filed Oct. 19, 1956 by Pharynol Corp., Chicago. Claims use since July 10, 1956.

PDQ—This for cleaner for combustion engines. Filed Oct. 23, 1956 by Standard Oil Co. of California, San Francisco. Claims use since June 12, 1956.

Dipak—This for floor cleaner. Filed Oct. 26, 1956 by Diversey Corp., Chicago. Claims use since Feb. 16, 1956.

Trail-R-Wall—This for cleaner and polish for varnished wood walls. Filed Dec. 27, 1956 by Charles Paul Schneider, Kansas City, Kans. Claims use since July 23, 1956.

Sandopan—This for industrial and household detergent. Filed Dec. 7, 1956 by Sandoz, Inc., New York. Claims use since 1930.

Esquire Lanol White—This for shoe polish. Filed Jan. 6, 1956 by Knomark Manufacturing Co., Brooklyn, N. Y. Claims use since February, 1946.

Aerosect—This for all-purpose cleaner and polish. Filed Jan. 7, 1957 by Pennco Engineering Co., doing business as Pennsylvania Engineering Co., Philadelphia, Pa. Claims use since Dec. 13, 1956.

UC-54—This for corrosion inhibitor. Filed Apr. 9, 1956 by Union Oil Co. of California, Los Angeles. Claims use since Oct. 20, 1955.

Evolene—This for corrosion inhibitor. Filed June 15, 1956 by Herman Meyer Drug Co., Garwood, N. J. Claims use since Sept. 3, 1954.

Mun-Lab Sure Death—This for rodenticide. Filed Nov. 5, 1956 by Muncie Laboratories, Inc., Muncie, Ind. Claims use since Feb. 20, 1956.

Rapid Shave—This for aerosol shave cream. Filed Jan. 25, 1957 by Colgate-Palmolive Co., New York. Claims use since Jan. 21, 1952.

Formula X—This for washing powder for use in commercial and home launderies. Filed Aug. 2, 1956 by Walde's Formula-X, Mason City, Ia. Claims use since about Nov. 1, 1955.

Hydro Steam—This for steam cleaning compound and degreaser. Filed Sept. 10, 1956 by Griffith Co., Bridgeport, Conn. Claims use since May 10, 1956.

Royal Drene—This for shampoo. Filed Sept. 10, 1956 by Procter & Gamble Co., Cincinnati. Claims use since June 11, 1956.

Celsuds — This for detergent. Filed Oct. 15, 1955 by Celebrity, Inc., New York. Claims use since Jan. 10, 1954.

ImacQlate — This for liquid cleaner for removing asphalt and tar stains. Filed Oct. 24, 1956 by David Honoroff, doing business as Rubertite Laboratories, Miami, Fla. Claims use since Feb. 3, 1956.

Jinx — This for rug cleaner. Filed Nov. 6, 1956 by Claire Manufacturing Co., Chicago. Claims use since June 2, 1913.

Genie—This for sudsing detergent. Filed Nov. 16, 1956 by Colgate-Palmolive Co., New York. Claims use since Sept. 13, 1956.

★

Lyons to Sun Chemical

M. Don Lyons has joined Sun Chemical Corp., Long Island City, N. Y., as director of market research, it was announced last month by Norman E. Alexander, president. In his new post, Mr. Lyons will inaugurate a study of market areas which are being considered by the company for expansion and further investment. He previously was head of his own research organization, M. Don Lyons, Inc.

YOU, TOO, CAN DO THIS . . .

It's no great trick, today, to produce an aerosol packaged product which embodies all of the attributes essential to its success. You who contemplate entering this lucrative field have many experts to call upon – the container manufacturers, the valve-makers, the commercial fillers, and the suppliers of ingredients and aromatics – all are ready to help you with whatever practical, technical or scientific assistance you may need to develop and package a ready-for-market item primed from the start with high-potential sales appeal. As a leading and long established source of perfume raw materials, aromatic specialties and made-to-order odorants for household and industrial use, we are happy to offer you the facilities of our laboratories for the creation of your product's fragrance. We believe you will be more than pleased with the competence of our service.

—ALWAYS *DEPENDABLE*—
ODORANTS and DEODORANTS
for INDUSTRIAL and
TECHNICAL USE

▲

MADE-TO-ORDER FRAGRANCES
for PERFUMES, TOILETRIES
and COSMETICS

▲

SUPPLIERS of
AROMATIC CHEMICALS,
BASIC PERFUME and
FLAVOR RAW MATERIALS

FRITZSCHE *Established* 1871 *Brothers, Inc.*

PORT AUTHORITY BUILDING, 76 NINTH AVENUE, NEW YORK 11, N. Y.

BRANCH OFFICES *and* *STOCKS: *Atlanta, Georgia, Boston, Massachusetts, *Chicago, Illinois, Cincinnati, Ohio, *Los Angeles, California, Philadelphia, Pennsylvania, San Francisco, California, St. Louis, Missouri, Montreal and *Toronto, Canada and *Mexico, D. F. FACTORY: Clifton, N. J.

CSMA Announces Sixth Aerosol Contest

WINNERS of the sixth annual aerosol packaging contest, sponsored by the Chemical Specialties Manufacturers Association, will be announced during the 44th annual meeting of the CSMA at the Hollywood Beach Hotel, Hollywood, Fla., Dec. 9-12. Awards to winners in 10 product classifications and a "best of show" will be presented at the meeting, at which all products entered will be displayed.

Entries for the competition must be received at CSMA offices, 50 East 41st St. New York 17 by Oct. 15. There are no entry fees or other charges to entrants. The contest is open to any aerosol brand owner or marketer, and is not restricted to CSMA members. Only one entry may be made in any one product class, but entries may be made in as many classes as desired. Entry blanks may be obtained from CSMA. They must be made in the name of the brand owner or marketer, and the product entered must be on the market and have been freely offered for sale prior to Sept. 1, 1957.

One change in this year's contest is the listing of "Medicinal and Pharmaceutical Products" as a separate classification. These products, which replace "Snow" as class eight, formerly were listed under "Other Personal Products." Snow will henceforth be classified under "Other Household Products."

The ten product classifications include:

Insecticides, repellents and moth-proofers; room deodorants; paints, enamels and other protective coatings and paint remover; other household products —polishes, glass cleaners, rug shampoos, water repellents, snow, etc.; shave products; hair preparations; other personal products—shampoos, body deodorants, sun tan oil, etc.; medicinal and pharmaceutical products; industrial products—lubricants, stencil inks, belt dressings, etc.; and glass and plastic aerosols—all products.

The basis of awards is general sales appeal of the complete package.

★

New Aerosol Shoe Polish

A new aerosol shoe polish designed for use on all colors of leather shoes, was introduced recently by Universal Spray Can Co., New York. Called "Speed Shine," the new product is said to dry within 30 seconds after having been applied. It is non-toxic, non-inflammable and is packaged in an 11-ounce aerosol container. No polishing or buffing is required, according to the manufacturer.

★

Crown 'Spra-Tainer' Contest

The Can Division of Crown Cork & Seal, Inc., Philadelphia, will sponsor a special contest this fall in conjunction with the manufacture of its billionth "Spra-Tainer" aerosol can, it was announced recently. According to Harvey C. Tull, manager of aerosol products, a large-screen television set will be awarded to the contestant who comes closest to guessing the day and the hour when the billionth "Spra-Tainer" is produced.

Mr. Tull added that, based on present rate of production, the billionth can will come off the production line no earlier than Sept. 3 and not later than Nov. 29. Crown's "Spra-Tainer" lines op-

Newest addition to "Black Flag" line of insecticides of Boyle-Midway, Inc., New York, is combination product for use indoors and in the garden. Packaged in 14-ounce Continental can, the newest "Black Flag" aerosol retails for $1.50. Maker claims product will control flying and crawling insects, as well as plant pests. During the peak of the insect season six network television shows will promote the company's insecticide line.

Universal Spray Can Co.'s new "Speed Shine" aerosol shoe polish is packaged in a 12-ounce container supplied by Continental Can Co., New York.

ONLY CONTINENTAL OFFERS THE

"Fluid Flow Five"

A full line of "poly" nozzle non-drip detergent cans

Take a good look at Continental's exclusive line of five *Fluid Flow* cans. Everyone of these rugged containers gives liquid-smooth performance for your detergent *plus* these big selling features:

EVEN POURING, NO DRIPPING. Threaded polyethylene nozzle permits free flow . . . provides exact, dripless cutoff when pour is completed.

WRAP AROUND LITHOGRAPHY. Solderless construction frees every square inch of outside surface for colorful decoration—even domes and tops.

LASTING BEAUTY. Resistant varnish prevents marring of lithography . . . protects your sales message from the time it leaves your plant until it's in the consumer's hands.

TOP PRODUCT PROTECTION. Newly-developed enamel linings prevent raw metal from touching your liquid detergent.

For more information on how Fluid Flow cans can benefit your product call your nearest Continental representative.

News For Makers Of Other Hard-to-hold Products

Fluid Flow cans are also available for such products as: liquid wax (water base) . . . liquid soaps . . . liquid starch . . . liquid car wash . . . liquid polish (water base) . . . liquid rug and upholstery cleaners . . . and water base cleaners.

QUALITY Continental SERVICE

CONTINENTAL CAN COMPANY

Eastern Division: 100 East 42nd Street, New York 17, New York
Central Division: 135 South LaSalle Street, Chicago 3, Illinois
Pacific Division: Russ Building, San Francisco 4, California

erate from Monday through Friday, 8:00 A.M. to 5:00 P.M. Contest is open to everyone except Crown employees and employees of its advertising agency. Entries must be postmarked not later than Aug. 31 and sent to Mr. Tull, Crown Can Division, 9300 Ashton Rd., Philadelphia 36.

★

New Airkem Container

Airkem, Inc., New York, recently announced a new eight-ounce aerosol container for its line of insecticides. The products previously were marketed only in 12 and 16 oz. cans. (Photo page 141.)

The new package, manufactured by American Can Co., New York, will be distributed nationally through institutional suppliers. The label emphasizes the product's non-toxic quality and its application in hospitals, food processing plants and other institutions. The container will also be available for retail sale through the firm's regular chain of brokers.

★

New "Easy Cut" Spray

An improved grade of "Easy-Cut," said to prevent grass from sticking to hedge clippers and grass trimmers, was announced recently by Speco, Inc., Cleveland. Packaged in a 16-ounce aerosol container, the product is claimed to keep grass off all metal parts and eliminate need for frequent cleaning. It is also recommended for use on blades, cutter bars, wheels, housings and rotary and reel-type lawn mowers.

Thonet Joins Continental

Appointment of Theodore A. Thonet to its laboratory research staff, was anounced last

Theodore A. Thonet

month by Continental Filling Corp., Danville, Ill. In his new post, Mr. Thonet will be engaged in research on aerosol filling problems. Mr. Thonet holds a B.S. degree from the University of Miami, where he majored in analytical and physical chemistry.

★

Krylon Names New Reps.

Krylon, Inc., Norristown, Pa., last month announced the appointment of four new distributors to handle its lines of aerosol protective coatings and spray enamels. According to Richard C. Newbold, vice-president of sales, the new representatives are: W. W. Campbell Co., Bay Village, O., who will cover Ohio; Munger Co., St. Clair, Mich., for Michigan; Joseph Parker and Associates, Nashville, Tenn., for Kentucky, Mississippi and Tennessee; and Richard A. Ruhling and Associates, Chicago, for Indiana. Ruhling presently represents Krylon in Illinois and Wisconsin.

★

Bridgeport Earnings Up

Sales of Bridgeport Brass Co., Bridgeport, Conn., declined, while income and earnings rose for the first 1957 half. Net sales for the six months ended June 30 totaled $77,532,606, as compared with $91,898,033, in 1956. Net income this year amounted to $2,854,654, equal to share earnings of $1.75. This compares with $2,528,009 and $1.53 a year ago.

★

Insulate Aerosol Plant

How the first aerosol filling plant in England was advanced from the status of temporary shed to permanent plant with the aid of thermal insulation is told in the June issue of *Gypsum Journal,* published by the Gypsum Plasterboard Development Association. Pressure Aerosols Filling Co., Berkhamsted, Herts., a subsidiary of Cooper, McDougall & Robertson Ltd., one of Britain's oldest pest control specialists, set up one filling line in 1950. The experimental venture was installed in an old storage shed. When it was decided to make the existing building the permanent home of the established process, thermal insulation had to be provided to reduce heating costs and provide suitable working conditions. Gypsum board was chosen, because it does not contribute to the spread of flame.

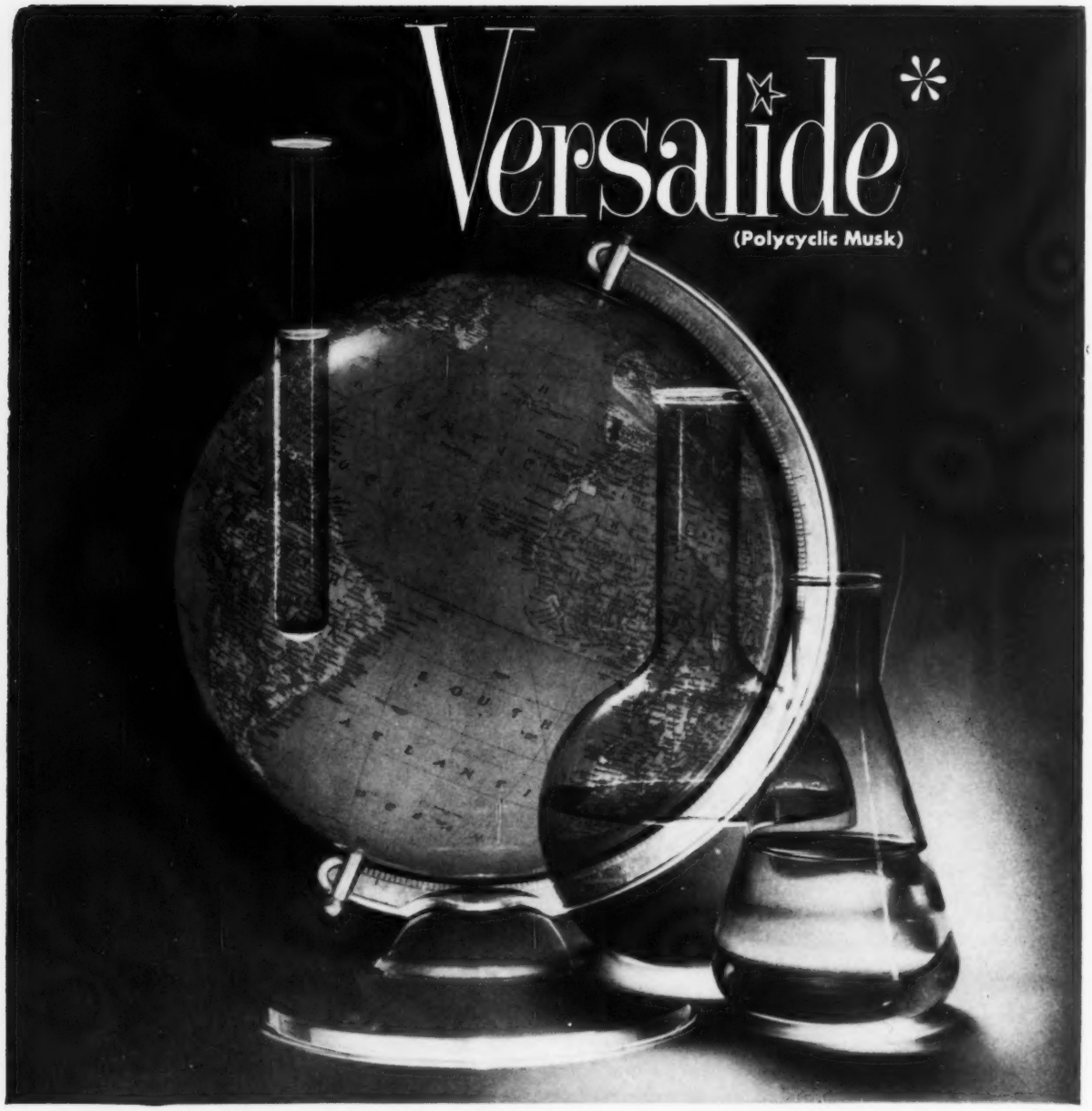
Incidentally, Pressure Aerosols operates five filling lines today and does custom filling not only in metal but glass and other containers.

★

Canadian Aerosol Plant

Protection Chemical Products Co., claimed to be Montreal's first private label aerosol fillling firm, celebrated its sixth anniversary recently, according to Adam Wygnanski, general manager. The company, which was founded by

Adam Wygnanski



an international success!

Within a year of its introduction, *Versalide*, Givaudan's outstanding new polycyclic musk, has met with international acceptance! Perfumers throughout the world of fragrance have recognized in its versatility and unique combination of advantages a whole new field of opportunity for creative perfumery.

Versalide lends to a perfume all the enhancement, sweetness, strength, fixation and blending properties expected only from the macrocyclic musks, and yet at a fraction of their cost.

A pure chemical body, not a mixture, *Versalide* is economical—stable to light, heat, air, alkali; and does not discolor soap. And its versatility is practically unlimited!

We will gladly send you a sample and more detailed information.

* Reg. U.S. Pat. Off.

GIVAUDAN

GIVAUDAN-DELAWANNA, INC.
330 West 42nd Street, New York 36, N. Y.

Mr. Wygnanski in 1951, recently completed construction of a new plant in eastern Montreal. The new unit includes a new research laboratory and facilities for testing a wide range of aerosol formulations.

Mr. Wygnanski formerly was chief chemist for a French synthetic chemical concern in Paris. A member of the Society of Chemical Industry, he has been engaged in research work in the chemical specialty field for more than 20 years.

New "Krylon" battery terminal coating protector spray in aerosol package was announced recently by Krylon, Inc., Norristown, Pa. Designed to protect storage batteries against current leakage, acids and corrosion, product may be applied to all storage batteries including automotive, marine and industrial. Comes in 16 and six ounce containers to retail for $1.95 and 98 cents, respectively. Both sizes are packaged in colorful, 12-unit point of sale display cartons for sale through hardware, automotive and marine outlets.

Aluminum Aerosol Cans

(*From Page* 129)

lacquering of the body and neck for almost all active products packed. Two types of resins are used: epoxy and ethoxy, the main requirements being a surface free from pores and storing at the right temperature.

The major aerosols produced in Germany are: insecticides, hair lacquers, space deodorants, hair dyes, shaving creams, sun tan products, anti-rust products and others.

"Frigon" is the most widely used propellant. Equivalent to "Freon," it is often mixed with vinyl chloride and propane.

The metal parts of the valves used for aluminum containers up to now have been made with tinplate. Although the combination tinplate-aluminum has given small cause for complaints, it is considered advisable to change to valves made from aluminum. The matter is under study by the valve manufacturers.

Conclusion

ALUMINUM containers for aerosol dispensers are technically satisfactory and will hold gas under any pressure used today. Aluminum containers will not corrode, provided tests have determined the effect of active products on uncoated sides or sides suitably protected by lacquer coats or aluminum oxide.

The container may be a single-piece can with a drawn-in neck. In this property it is unique among metal containers. It may be lithographed and variously shaped to increase sales appeal. The rate of production per line is small now but this situation should increase. Costs, for obvious reasons, are higher than for three-piece or two-piece steel containers. However, the aluminum container has got something the others have not got and that may be worthwhile paying for.

—★—

Packaging Techniques

"The right kind of carton can reduce the number of hands needed to move merchandise, and thus provide lower costs for the consumer and higher profits for the retailer and manufacturer," according to Gustav L. Nordstrom, executive director of the Folding Paper Box Association.

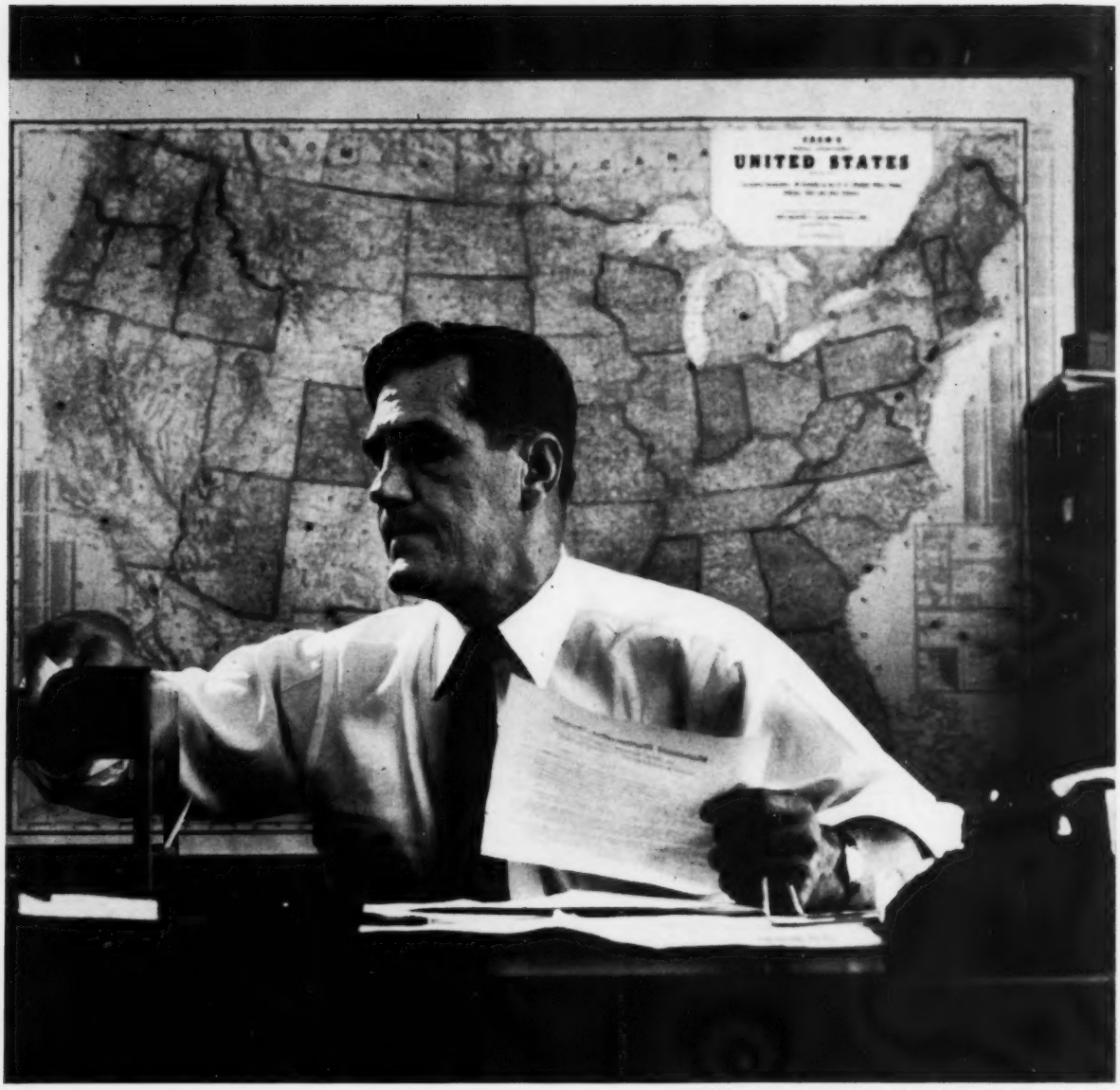
Addressing the 42nd annual convention of Canadian Paper Box Manufacturers Association at Chateau Frontenac, Que., Mr. Nordstrom also emphasized the importance of automation in raising the level and quality of production. He said, "Packaging must do the same job in retailing if we are to have an ever-increasing flow of better goods at reasonable prices. To its primary role as a 'silent salesman' the package must add the ability to cut handling costs."

Mr. Nordstrom told the packaging men that there is much to learn from the super markets, for "today, one out of every five retail dollars is spent there." Through rack jobbers, blister packs, multi-packs and other ingenious packaging ideas, he pointed out, alert manufacturers are selling amazing quantities of non-food merchandise through supermarkets.

—★—

Continental Sales Higher

Continental Can Co., New York, last month reported an increase in sales and a decline in income and earnings for the first six months of 1957. Net sales for the six months ended June 30 totaled $492,617,000, as compared with $479,372,000, in the first half of 1956. First half net income amounted to $53,279,000, equal to share earnings of $1.68. This compars with $54,785,000 and $1.77, in the corresponding period of last year.



COPYRIGHTED MAP COURTESY OF THE GEORGE F. CRAM CO., INC.

This man has 48 states on his mind

(His job is moving Dow Caustic Soda into your backyard)

He's learned to think in terms of the best type of transportation, time in transit and customer convenience in receiving. He's an important link in the long chain of people who produce, sell and deliver Dow Caustic Soda.

Dow caustic in many forms—solid, flake, ground and solution—moves into the backyards of American industry from several strategically located shipping points.

It is shipped direct from three Dow producing plants located at Freeport, Texas; Midland, Michigan; and Pittsburg, California. A new plant at Plaquemine, Louisiana, will be in production in 1958.

It is also distributed through terminals at Bayonne, New Jersey; Carteret, New Jersey; Port Newark, New Jersey; Charleston, South Carolina; Chicago, Illinois; Baltimore, Maryland; and Los Angeles, California. A new terminal at Grants, New Mexico, will help to provide even better service to Dow Caustic Soda customers.

For more information about the advantages of buying caustic from Dow, write to THE DOW CHEMICAL COMPANY, Midland, Michigan, Department AL 604G.

YOU CAN DEPEND ON DOW

Production...

EQUIPMENT • MATERIALS • PROCESSING

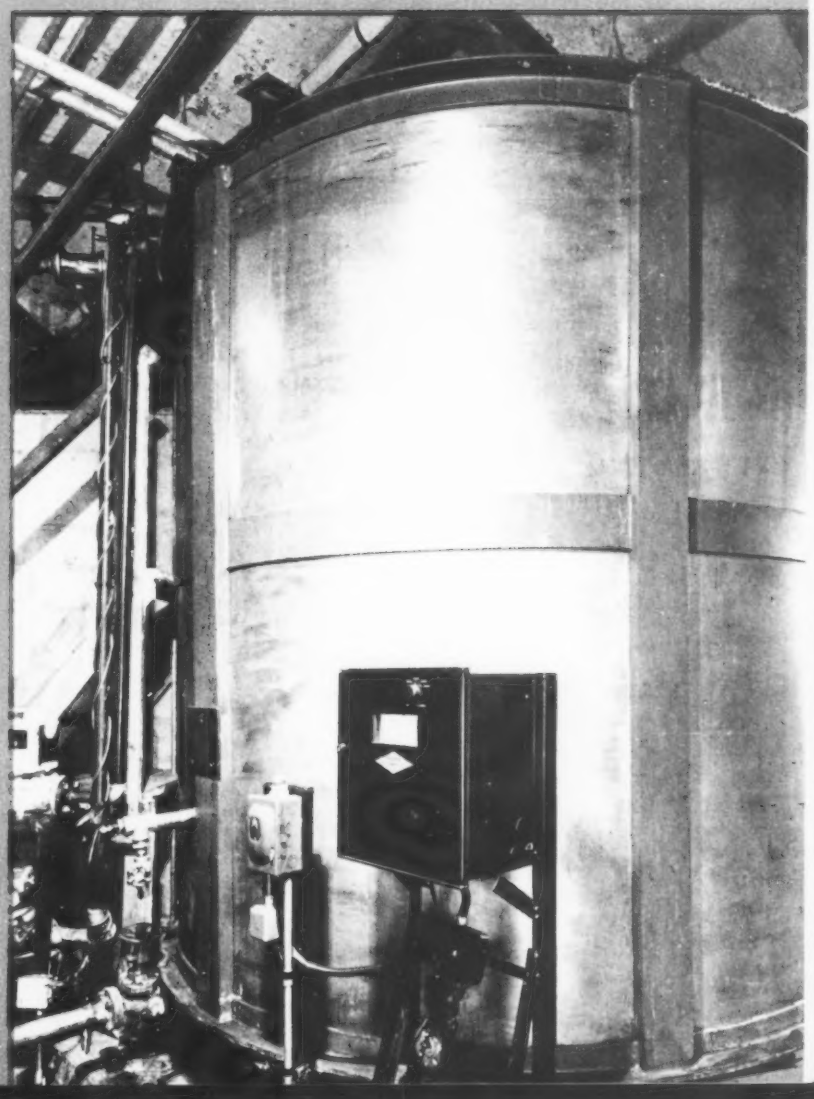
Production Clinic

Soap Plant Observer

Products and Processes

New Patents

Bulletins and Equipment



Overall view of 4,000 gallon blending tank in B. T. Babbitt, Inc., plant at Albany, N. Y. Baldwin indicator, shown in foreground, is connected electrically to SR-4 load cell supporting two-thirds of the tank to determine exact weight which must be obtained to insure correct formulation for company's liquid detergent, "Glim." See article on page 161 for details.

Improved

HOUCHIN MACHINES

make GOOD soap *Better!*

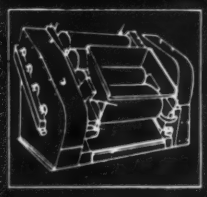
Houchin Machinery Company has had more than 117 years' experience in the making of fine soap machinery.

It has constantly kept abreast of the needs of the industry—and, frequently, has anticipated those needs before they were actually formulated.

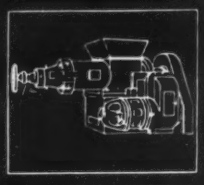
In the future, as in the past, you will find that improved Houchin machines will help you make good soap, better.

We'll be glad to give you facts and figures.

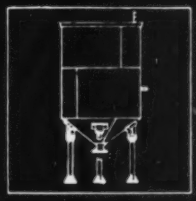
Why not write us about it today?



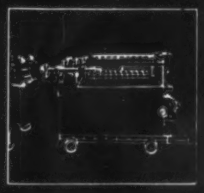
MILLS



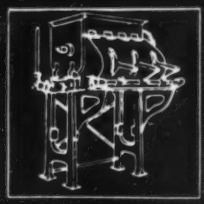
PLODDERS



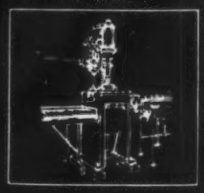
KETTLES



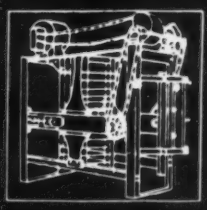
TOILET SOAP CUTTERS



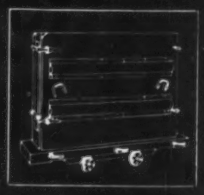
AMALGAMATORS



PRESSES



SLABBERS



SOAP FRAMES

LAUNDRY SOAP CUTTERS

VARIABLE SPEED CRUTCHERS

HOUCHIN MACHINERY CO., INC.

HAWTHORNE, NEW JERSEY, U. S. A.

Manufacturers of Soap Making Machinery for over a Century

Recent developments in

Wax and Polish Formulation

European polish industry changes to new readily available materials to replace high priced candelilla and carnauba wax

SIGNIFICANT changes have taken place in the formulation and production of furniture and motor car polishes and floor and leather care products in the past few years. In Europe these changes were caused largely by the replacement of candelilla and carnauba type hard waxes as the chief raw materials of polishes by other materials. Widely fluctuating prices and lack of uniformity of the natural product were the main reasons why European manufacturers were forced to look for other sources of hard wax.

Around 1920, the upgraded montan wax derivatives made their appearance on the market. These high grade useful waxes are purified montan acids made from montan wax. Sometimes they are traded in the form of ester waxes.

New and valuable raw materials emerged with the advent of the Fischer-Tropsch synthesis. This process yields high molecular paraffins which exhibit definite hard-wax characteristics with solidification points somewhere between 80° and 105°C. Compared with waxes containing hydroxyl groups these contact paraffins have the additional advantage of non-polarity and consequently better water repellency. Furthermore, they can be purified to the point where a white product results.

Recently two groups of materials have gained importance in the polish industry: silicone oils and fatty acid ketones. Added in small quantities to furniture and motor car polishes, the silicones facilitate polishing of large areas. In addition they help to prevent fogging.

Fatty acid ketones, particularly stearic, lauric, and oleic ketones have proved their practical worth in American carnauba base car polishes. By dry distillation of calcium salts of higher fatty acids ketones are formed according to the formula:

$$2C_{11}H_{23}COOH \xrightarrow{Ca\text{-}Salts} \begin{matrix} C_{11}H_{23} \\ C_{11}H_{23} \end{matrix}\!\!>\!CO + CO_2 + H_2O$$

Stearic ketone (stearone) and lauric ketone (laurone) are stable to acids, alkali and high temperatures. They are compatible with high melting vegetable waxes, microcrystalline waxes, and paraffin-hydrocarbons. They can be formulated with triglycerides and fatty acids. Combined with various solvents in concentrations ranging from 20 to 30 per cent these ketones form solid pastes at room temperature. (For instance, 25 per cent stearone in 75 per cent oil of turpentine).

Stearone has the following formula:

$$CH_3-(CH_2)_{16}-\overset{\overset{O}{\|}}{C}-(CH_2)_{16}-CH_3$$

It is made by dry distillation of commercial grade stearine composed of 75 per cent stearic, 22 per cent palmitic, and three per cent oleic acids.

Stearone has the following physical and chemical properties: melting point —80°C.; ketone content —97 per cent; free stearic acid —one per cent; and paraffin-hydrocarbon — two per cent. Stearone comes in white waxy scales and has a pronounced fatty odor.

Solubility of stearone in grams per 100 grams of solvent

	30°C	50°C	80°C
Cyclohexane	0.5	9.3	>100
Ethyl acetate	—	0.1	>100
Butyl acetate	0.2	0.9	>100
Acetone	0.1	0.4	—
Ethanol (95%)	—	0.1	49
n-Butanol	—	0.1	>100

Laurone is derived from commercial lauric acid of the following composition:

	%
Caprylic	1
Lauric	95
Myristic	4

Laurone constants

Melting point	69°C
Ketone	96%
Free lauric acid	1%
Paraffin-hydrocarbon	3%

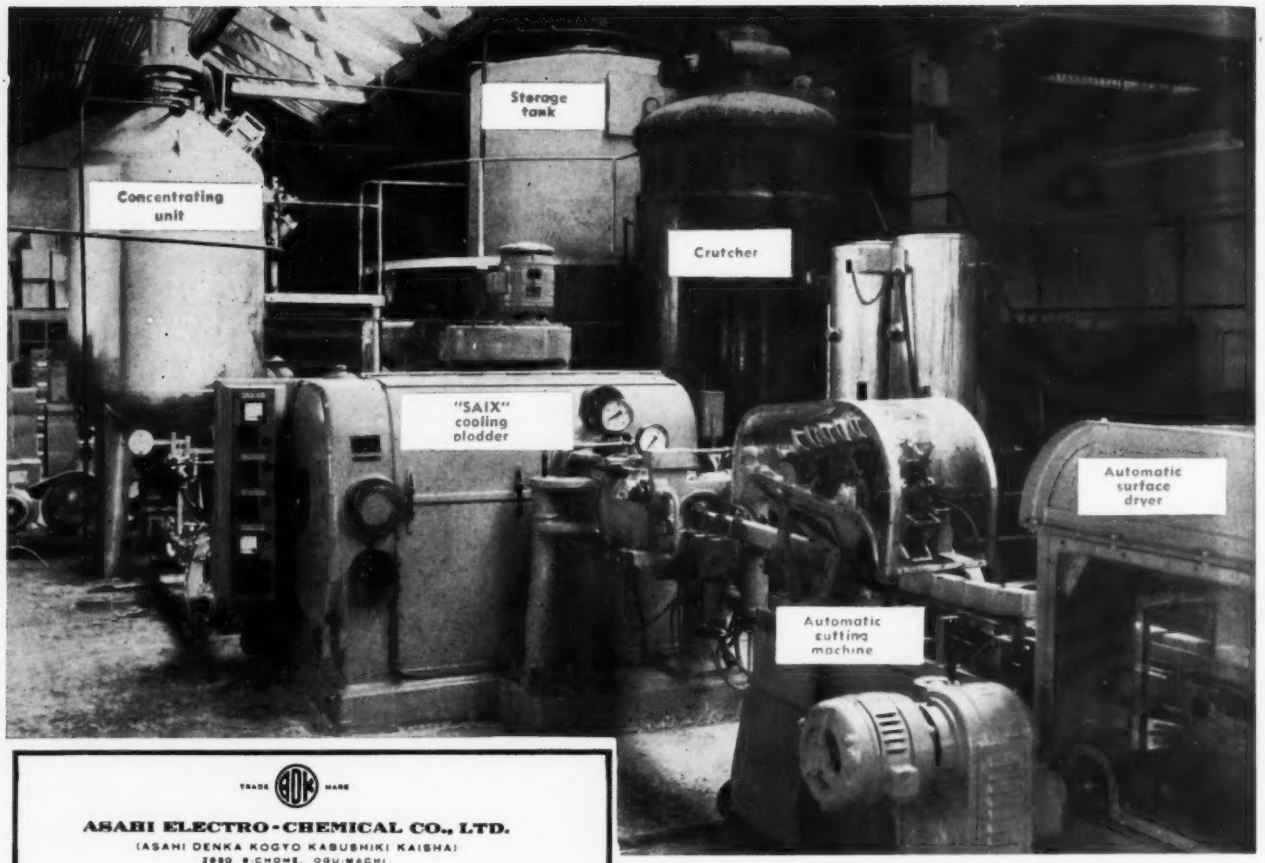
A crystalline white material of coconut fatty acid like odor, laurone is more soluble than stearone.

Solubility of laurone in grams per 100 grams solvent

	10°C	30°C	50°C
Cyclohexane	1.6	12.7	>100
Ethyl acetate	0.4	2.2	45.4
Butyl acetate	0.6	3.7	48.8
Acetone	0.5	1.1	>100
Methanol	0.1	0.5	1.7
Ethanol	0.2	0.6	6.0
n-Butanol	0.4	1.2	16.2

Oleone is derived from oleic acid of the following composition:

	%
Palmitic acid	4
Stearic	5
Oleic	80



TRADE ASAHI MARK

ASAHI ELECTRO-CHEMICAL CO., LTD.

(ASAHI DENKA KOGYO KABUSHIKI KAISHA)
2880 8-CHOME, OGU-MACHI,
ARAKAWA-KU, TOKYO
JAPAN

CABLE ADDRESS: TOKYOADENKA TOKYO

Tokyo, 28th February 1957

Messrs.
Meccaniche Moderne,
Casella Postale 388,
Busto Arsizio,
Italy.

Dear Sirs:

Re: - S A I X Cooling Plodder.

We are pleased to inform you that the Laundry Soap Manufacturing Plant, comprising a SAIX-4c Cooling Plodder and sundry auxiliary machines, supplied to us around the end of 1955 through your agents in Japan, Messrs. C. Correna & Co., Ltd., Tokyo, is working to our entire satisfaction.

We are also glad to confirm that the laundry soap produced with the aid of your cooling plodder is of a better quality than that we have been manufacturing up to now by ordinary cooling methods. The soap has very good washing and lathering qualities due to the milling equipment incorporated in the machine. The outstanding merits of your cooling plodder, however, are its labour-saving qualities, and the fact that by its application the amount of scrap soap is reduced to minimum.

We believe that our satisfaction with your cooling plodder is best illustrated by the fact that we have ordered from you in September last year two more SAIX-4c Cooling Plodders, one of which has just arrived, while the second one is expected to arrive here in June.

We have no hesitation to recommend your cooling plodders, as well as all other machinery you are manufacturing, to any prospective buyer.

Yours faithfully,

ASAHI ELECTRO-CHEMICAL Co., Ltd.

Photograph of a "SAIX-PISONI" Automatic type plant for the continuous production of plodded soap.

Range of applications:

• **Plodded soaps from either low or high titer fats.** • Pure soaps, 62% fatty acids, **retaining natural moisture** (28-30%). • **Soaps containing up to** 40% moisture. • **Soaps filled with silicate or other builders, their fatty acids contents lowered to 35%, and** all natural **moisture retained.** • **All kinds of** opaque concentrated soaps, **either pure or filled, and based on low or high titer fats.** • **Concentrated** translucid soaps **without any addition of glycerine, alcohol or other chemicals.** • Translucid **or opaque toilet soaps.**

Special features and savings:

• **Absolutely no changes in fatty acids and moisture percentages between the hot liquid soap fed into the plant and the resulting extruded bar.** • **Soaps crystallized up to 100% in "Beta Phase", consequently of excellent lathering characteristics.** • Little cooling water **required at temperatures between** 15° C. and 30° C. • **One man can operate the plant.** • **Maximum economy in space.** • **Soaps can be cut, stamped and packaged without scraps.** • **Extremely easy to operate: minimum maintenance required.** • **No distortion or twisting of soap billets during storage.** • **Automatic perfuming device.** • **100% savings on steam, 50% on cooling water, 50% on electrical power, 70% on labor.**

Production capacities:

1/10, ¼, ½, 1, 2, 3 tons per hour and more.

45 "SAIX-PISONI" PLANTS MANUFACTURED IN THREE YEARS

MECCANICHE MODERNE are also makers of: continuous plants for toilet soaps; continuous sulfonating plants; spray-driers for the production of soap and detergent powders in bead form.

MECCANICHE MODERNE

CORSO SEMPIONE, 51 — BUSTO ARSIZIO (Italy)

U. S. SALES REPRESENTATIVES
AMERICAN ASSOCIATES
507 Fifth Ave. — N. Y. 17

Oleone Constants

Melting point	28°C
Ketone	91%
Free oleic acid	4%
Paraffin-hydrocarbon	5%
Iodine number	95

Mixed with microcrystalline waxes, the aliphatic ketones act as steam barriers. An addition of 25 per cent stearone results in reduced steam transfer, improved hardness, lowered viscosity (in molten state).

Stearone Based Anionic Emulsion Polish

	grams
Stearone	100
Stearic acid	46
Morpholine	14
Water	767
Perfume	3

Melt stearone and stearic acid, then add morpholine. Keep melted batch on water bath, add hot water (90°C.) with constant stirring. Stir until cool. At 35°C., add perfume and pass through colloid mill.

Types of Polishes

DEPENDING on the type of surfaces to which they are applied there are two main types of polishes: 1. Water emulsion waxes to treat solvent sensitive surfaces such as certain plastics, rubber floors, asphalt tiles, etc. 2. Solvent containing polishes (oil polishes) for use on most varnished surfaces, linoleum, hard wood, etc.

In most formulations the gloss ingredient is a hard wax. The dispersing agent to make application easier or to provide spreading properties – is usually a volatile solvent or a non-volatile solvent and water. The wax itself comprises three materials: a hard gloss imparting wax; a filler, mostly paraffin (at least 50-52°C.); and an oil binder, usually ozokerite.

Basic Recipe for Solvent Polish

	%
Carnauba	8
Block paraffin (fully refined)	8
Ozokerite, pure	3-4
Mineral spirits	79.7
Perfume	0.3

Solvents

THE quality of the final product is governed to a large extent by choice of the correct solvent. Solvents act as dispersing agents and may be volatile like turpentine and certain petroleum fractions, or non-volatile like spindle oil or marine oils which are used in leather care products.

In volatile solvents exact knowledge of boiling range is of the utmost importance. Suitable balsam turpentine oil should have a boiling range between 150° and 180°C. Low boiling components (below 140°C.) cause excessively rapid evaporation, make the wax difficult to spread and give it a dull finish. In storage the product may release the low boiling components and begin to rattle in the can.

Conversely, if the solvent contains an excessive proportion of very high boiling components (above 180°C.), evaporation of the solvent, particularly in cold weather, will be too slow and the polish may not dry at all. Consequently the film will be sticky and lead to complaints.

Oil of turpentine intended for use in polish formulations should be as fresh as possible. Formation of pinene oxidation products may result from incorrect storage. Resinified turpentine is highly undesirable in polish formulations. Formulas for three solvent type floor polishes are given below:

1. Medium Price Product

	parts
Wax O*	4.5
Wax F*	2.0
Ozokerite (approx. 100%, 70°C)	0.5
Block paraffin (52-54°C)	19.0
Mineral spirits	73.7
Perfume	0.3
	100.0

* For source, see appendix

2. Quality Formulation

	parts
Wax OM*	8.5
Wax OP*	0.5
Wax F*	0.5
Ozokerite (approx. 100% 70°C)	0.5
Block paraffin (52-54°C)	20.0
Mineral spirits	20.0
Perfume	0.3
	100.0

* For source, see appendix

3. Inexpensive Formula

	parts
Wax OP*	4.0
Wax V*	1.0
Ozokerite	1.0
Block paraffin	4.0
Mineral spirits	89.7
Perfume	0.3
	100.0

* For source, see appendix

Furniture Polishes

SOLVENT-FREE liquid polishes are usually based on wax emulsions in saponified or partially saponified form. No sharp distinction exists between water emulsion waxes and polishes and solvent type polishes. Frequently solvents are added to water emulsion type polishes, particularly those for use on furniture, to increase detergency. Small amounts of mild abrasives such as finely dispersed silicic acid may be used to aid mechanically in cleaning. Furniture polishes may be divided into two groups according to the ratio of wax to solvent content. A formulation containing 20 to 50 per cent solvent and 10 to 15 per cent wax yields a paste particularly suitable for light smooth surfaces such as kitchen furniture, doors, window frames and refrigerators. A milky liquid results from formulations with more than 50 per cent solvent and five to 10 per cent wax. Such liquids are especially suitable for the care of dark, high gloss varnished surfaces.

4. Top Quality Furniture Cream

	parts
Wax S*	6.0
Wax BJ.* (unbleached)	4.0
Block paraffin (52-54°C)	5.0
Triethanolamine	0.5
Water (to dilute TEA)	5.0
Water	44.7
Balsam turpentine oil (fresh)	34.0
Silicone oil, 350cST	0.5
Perfume	0.3
Preservative	0.2
	Approximately 100.0

* For source, see appendix

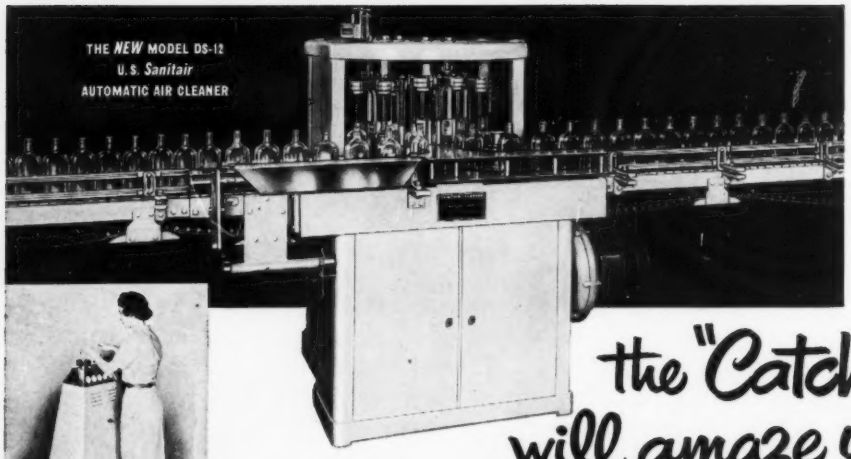
5. Liquid O/W Emulsion

	parts
Wax N (new)*	5.0
Wax E*	1.0
Paraffin (50-52°C)	2.0
Water	40.0
Mineral spirits	36.0
Balsam turpentine oil	14.0
Trichlorethylene	1.0
Silicone oil, 500 cST	0.5
Perfume	0.3
Finely dispersed silicic acid	0.2
	100.0

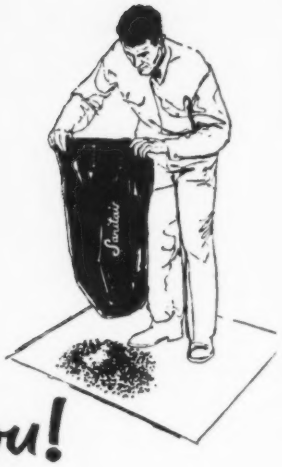
* For source, see appendix

Formula 6

	grams
Wax E*	8
Block paraffin (50-52°C) and	4
Curd soap	4
melted down at 100°C and saponified with a b oiling solution of	
Soda calcin. in	2
Water, hot	40
then add in sequence:	
Water, hot	50



THE E-Z TWO-TUBE AIR CLEANER. Containers inverted over air valves, two at a time, up to 40 per minute. Blows carton lint, dust, etc. out of new containers; any size or type. Send for the E-Z Bulletin.



the "Catch" will amaze you!

OF COURSE your containers are clean . . . they usually come to you in cartons. Yet, to be sure, run them through a U. S. Sanitair and be amazed at the "catch" of dust, carton lint, etc., from supposedly clean containers.

Throughout the packaging world, the U. S. Sanitair is widely adopted as the sure sanitary precaution. Many find it essential to product uniformity; to safeguard the material content of their products; or as a precaution against failure of aerosol valves.

Built in models of varying capacities with container size changeover. Handle all size container openings including AGST, wide-mouth and aerosol-valve finishes. Send for the "Sanitair Bulletin" now.

FOR RINSING any size or shape bottles or jars. The U. S. Rotary Rinser cleans both insides and outsides of containers. For water, steam or air. Send for the Rotary Rinser Bulletin.

U. S. BOTTLERS MACHINERY CO.
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BOSTON • NEW YORK • PHILADELPHIA • SAN FRANCISCO • LOS ANGELES
SEATTLE • DENVER • PORTLAND, ORE. • OGDEN • JACKSON, MISS. • KANSAS CITY
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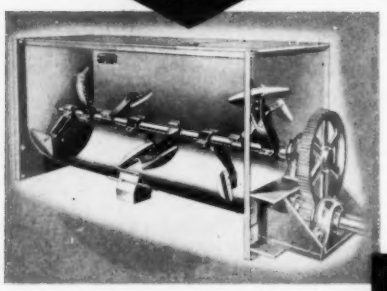
TORONTO • VANCOUVER • WINNIPEG • TOLEDO (export)

US 45th ANNIVERSARY

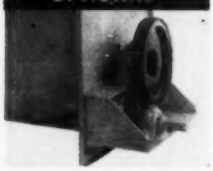
SPECIALISTS IN LIQUID FILLING AND CONTAINER CLEANING EQUIPMENT

THE ACTION SPOT IN ANY MILL

THE *Marion* MIXER with *Exclusive* MIXING AND BLENDING *ACTION*



CHAIN DRIVE OPTIONAL



INSTALL *Marion* MIXERS WITH CROSS BLENDING ACTION NOW for ABSOLUTE ACCURACY and CONSTANT UNIFORMITY *Bag after Bag after Bag!*

FOR THE MIXING OF:
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- DETERGENTS
- SWEEPING COMPOUNDS
- DRUGS
- PHARMACUETICALS
- CHEMICAL POWDERS

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GILCO Traveler, Model 55-BHCL, simultaneously and automatically cleans the inside and outside of used steel drums. Incorporates chaining (scouring) and/or washing opportunity. Speed of operations depends on character of residue or internal rust to be removed. Model 55-BHCL is complete including hood and exhaust system, automatic loader and submerger and live roller conveyor.

There's a GILCO machine for every phase of steel drum reconditioning. For complete details and specifications on the equipment to solve your particular problem, write, DEPT. GT.

L. M. GILBERT COMPANY
1505 Race Street Philadelphia 2, Pa.
Cable: LMGILCO

Balsam turpentine oil	40
Water, slowly stirred into mixture,	30
Perfume	0.5
Preservative	O.2

* For source, see appendix

Formula 7

	grams
Wax E*	6
Wax OP*	3
Block paraffin (50-52°C)	7.5
Rosin	1.5
Emulsied ("Emulphor O")	1.0
Potash	2.0
Water	20.0
Balsam turpentine oil	29.0
Water	30.0
Perfume	0.5
Preservative	0.2

* For source, see appendix

Formula 8

	grams
Wax E*	8
Wax S*	4
Block paraffin (50-52°C)	16
Rosin	1
Water, and dissolved in it	10
Soda calcin, (calculated on 100% active)	0.6
Water	40.
Balsam turpentine oil	30
Silicone oil, 350 cSt	0.5
Special perfume	0.3
Preservative	0.2

* For source, see appendix

9. Paste Polishes for Cars and Furniture

In an indirectly heated kettle melt 25 parts carnauba waste or an equal amount of bituminous wax (type 741 sic). Stir constantly. Temperature must not exceed 95°C., otherwise the wax will decompose. In a second kettle 48.5 parts water with 3.5 parts of potash are brought to the boil and then added with constant stirring to the molten wax in a thin jet. Boil briefly, until saponification has taken place. Then stir gradually into the hot emulsion (80°C.) 23 parts turpentine oil. Cool mass with constant stirring to 60-65°C. Add 0.3 part of perfume oil and pour finished polish.

10. Liquid Car and Furniture Polish

Melt 10 parts of polishing wax (type 4949 sic); add 40 parts mineral spirits, temperature approximately 20°C.; and immediately afterwards add with constant stirring 40 parts of boiling water. Cool emulsion down to about 45°C. Then add, still stirring well, 10 parts of denatured alcohol and 0.3 parts perfume oil. Stir until cool.

11. Furniture Polish, Mixed O/W Emulsion to be Packaged in Tubes

Slowly emulsify 30 parts of self-emulsifying wax (82°C.) with 35 parts boiling water and when the temperature is 70-80°C. work in 25 parts mineral spirits and 10 parts of balsam turpentine oil.

12. Milky Furniture Polish

Heat 20 kilos of self polishing wax 76-80°C. (GS-4816, sic) to a temperature of 100-105°C. Stir into the molten wax 20 kilos mineral spirits and 60 kilos boiling water. Continue to stir until cool.

13. Furniture Polish

	Kilos
Wax Z Special*	7
Water	40
Mineral spirits	37
Special gasoline	10
Balsam turpentine oil	4
Trichlorethylene	1
Silicone oil 350 cST	0.5
Perfume oil	0.3
Preservative	

* For source, see appendix

14. Self Polishing Emulsion

	Kilos
Wax KPS*	7,000
Block paraffin 54-56°C	2,000
Hard wax (OZ No. 75)	1,000
Emulsifier ("Emulphor O")†	1,250
Perfume oil	0.250
Preservative	0.100
Water	88.400

*For source, see appendix
† Registered trade name, General Dyestuff Corp., New York.

Two Basic Recipes for Liquid Floor Wax

	kilos	kilos
Hard wax (OZ No. 75)*	2	5
Wax OP	2	—
Block Paraffine 54-56°C	6	—
Mineral spirits	90	90
Soft ozokerite	—	5

* For source, see appendix

Basic Formulas for W/O Emulsion Paste

	grams
"Compes" Wax 25*	20
Balsam turpentine oil	40
Leather dye	5
Water, softened	35

* Maker unknown

Formula for Mixed Saponified Emulsion

	kilos
"Compes" Wax 13*	10
Soda	1.5
Water	70
Balsam turpentine oil	5
Mineral spirits	15
Emulsify at 90°C. then gradually add solvents	

* Maker unknown

Appendix: Waxes O, F, OM, OP, V, S, BJ, N (new), E, are "Hoechst" waxes available in the United States under the same designations from Wax & Rosin Products, New York. We have been unable to identify "Compes" Waxes.

General Directions

GENERALLY low pressure steam is not sufficient for the processing of hard waxes. Electrically heated glycerine baths may be practical. Saponification and emulsification is done between 70° and 90°C., according to instructions. Solvent is added slowly at temperatures ranging from 50°-60°C. Perfume oil is incorporated only at 40°C. shortly before pouring. Preheating of solvents to about 50°C. is particularly necessary during cold weather. Otherwise the finished product will not be uniform. After melting the wax, addition of the solvent is started so slowly that the temperature of the mass at first does not drop significantly. Careful stirring may be done by hand or by a slowly rotating mechanical stirrer. When all the solvent has been added the mass is cooled to pour temperature and kept in slight motion. Emulsions or saponified products are stirred thoroughly once more after having stood for 24 hours. A separator can be used, provided the nozzle is set large enough to avoid liquefying the mass. Gustav A. Nowak, *Seifen-Oele-Fette-Wachse*, 1957, No. 10, pp. 279-282.

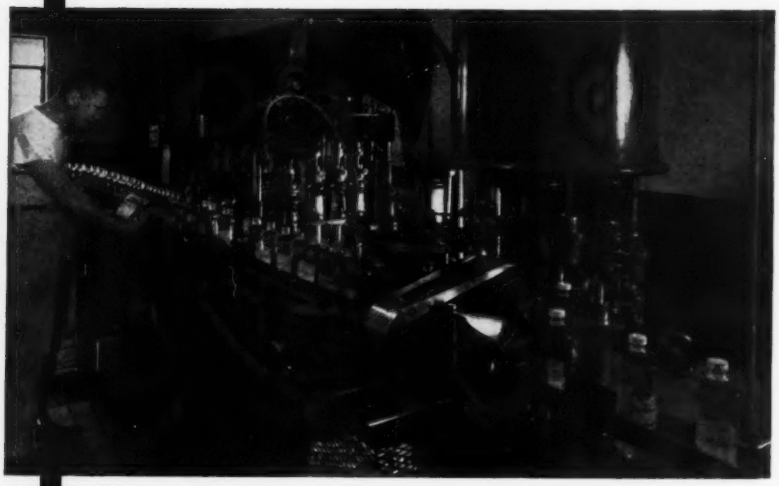
★

Armour Amines Booklet

"The Chemistry of Fatty Amines" is a 20-page highly informative brochure published recently by the Chemical Division of Armour and Co., 1355 West 31st Street, Chicago 9. Fatty amines are defined and classified, their synthesis described, average composition and constants tabulated. Data on vapor pressure and solubility is included; chemical, coordination, and substitution reactions of fatty amines are covered. Cationic surface activity is dealt with as an essential facet of the chemistry of fatty amines and their salts including quaternaries. Some use information is supplied with emphasis on the yet unrealized potentials of this group of chemicals. A list of Armour's trade-named chemicals from fats is appended.

CaPeM SCREW CAPPERS

Speed production for Texize Chemicals, Inc.



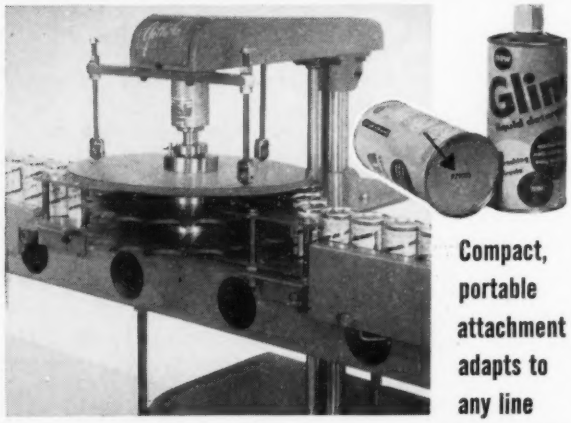
This Model D-6-F Rotary CaPeM increased production to such an extent that Texize Chemicals, Inc., Greenville, S. C. recently ordered a duplicate. This completely automatic line is operated continuously at production rates in excess of 200 bottles per minute.

CaPeM Screw Cappers apply all types of metal and plastic screw caps to jars, bottles, cans and jugs ranging in size from 1 oz. to gallons. Speeds range from 40 to 300 containers per minute. Write for complete information.

CONSOLIDATED PACKAGING MACHINERY CORP.

1400 WEST AVENUE, BUFFALO 13, NEW YORK

New way to Code Cans, Jars, Bottles



Compact, portable attachment adapts to any line

The Gottscho "Model TB" MARKOCODER® machine is a unique, fully automatic, packaging line attachment for coding *bottoms* of cans, jars, bottles, canisters, paper containers at speeds up to 600 per minute. Makes consistently clean, permanent ink imprints. Designed for quick code changes, simple maintenance, easy adjustment for different size cans. Offers all the advantages of a fixed-installation imprinter without requiring alteration of present line set-up.

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high purity
free-flowing
easy forming
good crystal clarity
five mesh sizes

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IN CANADA: Standard Chemical Limited and its Commercial Chemicals Division

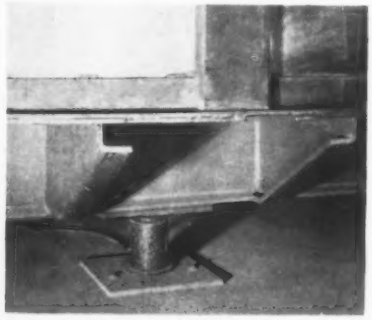
Electronic Scales Weigh Babbitt's "Glim"

ACCURATE weighing of detergent slurries is essential for the correct and uniform formulation of syndets containing foaming agents and other additives. To cut costs and reduce lost time owing to faulty weighing operations B. T. Babbitt, Inc., Albany, N.Y., maker of "Glim" detergent installed a "Baldwin SR-4" load cell weighing system made by Baldwin-Lima-Hamilton Corp., Philadelphia.

A variation of more than five pounds in weighing the 27,000 pound batch of detergent slurry which is the starting point in making "Glim," might affect foaming properties and detergency of the final product. To weigh this large mass within an accuracy of five pounds, babbitt uses the "SR-4" system which works electronically. The total weight of each batch is indicated on the instrument scale.

Prior to installation of the load cell system Babbitt used a mercury actuated weighing system where graduations were calibrated in 5,000 pound increments. Inaccurate weighing resulted in rejected batches.

A close-up shows the location of the Baldwin SR-4 load cell at the base of the tank used in the blending department of the B. T. Babbitt, Inc., plant, Albany, N. Y. The SR-4 load cell, having a 50,000 pound capacity, is part of the electronic weighing system installed to weigh detergent slurry. An accurate weight of 27,000 pounds must be obtained to insure proper formulation.



Weight reading is obtained by blending tank operator at the B. T. Babbitt, Inc., plant, Albany, N. Y. Indicator shows exact weight of detergent slurry within the 4,000 gallon stainless steel tank. Two-thirds of the tank's weight is supported by a Baldwin SR-4 load cell connected electrically to the indicator.

Detergent slurry arrives at the Babbitt plant in tank cars. It is immediately pumped into a series of storage tanks. Samples are assayed for content and checked for impurities. Following laboratory analysis, quality control chemists prepare the "Glim" formulation. A batch sheet is made up and delivered to the blending operator daily.

The slurry which contains suspended solids is pumped into a 4,000 gallon stainless steel blending tank. To achieve accurate formulation, the batch is weighed.

The mixture is then charged by the operator, and the batch is mixed for approximately one-half hour. After the batch has been completely blended, a laboratory sample is run off, and sent to the quality control department for an analysis of ingredients. The detergent is assayed by checking against the batch specifications sheet. If the batch meets content requirements, the blending operator then pumps the approved batch to production pipelines.

When the batch has left the tank, another detergent load is pumped in from storage, and the weighing operation is repeated. Three batches are prepared in an average eight-hour period.

An unusual foundation for the blending tank is used at the Babbitt plant. The tank rests on a steel frame which is supported at three points on the concrete floor slab. Two-thirds of the tank's weight rests on a "Baldwin SR-4" load cell which has a 50,000-pound capacity. The rest of the tank's load is supported by two "I" beam flexure members.

The weighing operation works this way: during charging, as the weight of the detergent in the tank increases, force on the "SR-4" load cell increases. The resulting change in voltage output is transmitted through the electrical circuit from the load cell to the amplifying unit and dial indicator at the operator's station. There a reading is obtained on the scale.

The device has no moving parts and is completely enclosed. Core of the unit is an "SR-4" bonded wire strain gage. A matched set of four is bonded to a high strength steel column machined to close tolerances. The four gages are connected electrically in the form of a Wheatstone bridge, initially balanced. Temperature compensating resistors are added to the circuit to maintain the accuracy of the bridge over a wide range of temperatures.

(*Turn to Page* 196)

NEW

Cowles

POTASSIUM SILICATE

Cowles Chemical Company offers clear Potassium Silicate solutions of exceptional purity in two commercial grades, also in special ratios and concentrations.

Cowles #28 is recommended for coating welding rods, special cements and a variety of other coatings.

Cowles #40 for rod coating, also for fast sudsing soaps and liquid detergents.

Available in returnable and non-returnable drums, tank trucks and tank cars.

Write for complete technical information and prices.

Cowles

HEAVY CHEMICAL DEPARTMENT

CHEMICAL COMPANY

7020 Euclid Avenue, Cleveland 3, Ohio

NEW Patents

The data listed below is only a brief review of recent patents pertinent to the readers and subscribers of this publication. Complete copies may be obtained by writing to the publisher of this magazine. MacNair - Dorland Co., 254 W. 31st Street, New York 1, N. Y., and remitting 50c for each copy desired. For orders received from outside of the United States the cost will be $1.00 per copy.

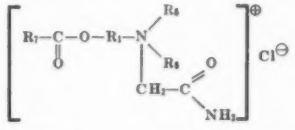
No. 2,792,328. Insect Repellent, patented by Edmund M. Socec, Augusta, Me. Described is a non-toxic insect repellent consisting of the following components by weight: 10% piperonyl butoxide, 1% pyrethrins, 16% of an emulsifier which is a combination of sorbitan trioleate and a polyalkylene derivative of sorbitan trioleate and 73% water.

No. 2,788,320. Pesticidal Coating Compositions, patented by Paul Bracey, London, assignor to National Research Development Corp., London, England. The patent teaches a method of controlling the rate of release of pest-controlling substance from a film produced from a coating composition comprising a lacquer solvent and an organic solvent-soluble aminoplastic resin and plasticizer therefor, together with an organic solvent-soluble pest-controlling substance in a quantity sufficient to exhibit its function at the surface of the film, which comprises skin hardening the surface of the film without materially affecting the interior thereof by irradiating said film with ultra-violet radiation.

No. 2,795,527. Article of Manufacture for Destroying Insects, patented by Leonard W. Gopp, Barrington, Ill., assignor to Chemical Marketing Corp., Chicago. This patent covers an article of manufacture for destroying flying insects comprising an absorbent carrier, parathion impregnating the carrier and thiamine hydrochloride concentrated on the surfaces of the carrier.

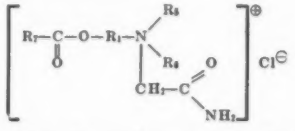
No. 2,794,579. Aerosol Bomb Having Spaced Propellant and Dispensable Liquids, patented by Edward J. McKernan, Algonquin, Ill., assignor to Seaquist Manufacturing Corp., Carey, Ill. This patent reveals an aerosol bomb comprising an outer container containing liquid to be dispensed therefrom, a valve assembly comprising normally closed valve means for dispensing said liquid, and a delivery tube connected to said valve means and extending approximately to the bottom of said container, an inner container in the first-mentioned container, propellent liquid in said inner container, said propellent liquid having a boiling point substantially below room temperature at atmospheric pressure, said inner container being attached to the delivery tube and having openings above the level of the first mentioned liquid, said openings connecting the interior of said inner container to the interior of said outer container, said openings accommodating flow of gas therethrough and preventing flow of said liquids therethrough.

No. 2,794,765. Cosmetic Preparations, patented by Otto Albrecht, Neuewelt near Basel, and Erich Matter, Riehen, Switzerland, assignors to Ciba Limited, Basel. A cation-active cosmetic preparation, is claimed which contains a major proportion of a water soluble quaternary ammonium salt which corresponds to the formula



in which R_1 represents an alkylene radical containing at the most 3 carbon atoms, R_5 and R_6 each represent an alkyl radical containing at the most 2 carbon atoms and R_7 represents an alkyl radical containing at least 10 and at the most 18 carbon atoms and a minor proportion of a compound of acidic reaction.

No. 2,794,808. New Quaternary Ammonium Salts, patented by Otto Albrecht, Neuewelt near Basel, and Erich Matter, Riehen, Switzerland, assignors to Ciba Limited, Basel, Switzerland. The patent reveals a water-soluble quaternary ammonium salt which corresponds to the formula



in which R_1 represents an alkylene radical containing at the most 3 carbon atoms. R_5 and R_6 each represent an alkyl radical containing at the most 2 carbon atoms and R_7 represents an alkyl radical containing at least 10 and at the most 18 carbon atoms.

No. 2,794,451. Method and Apparatus for Filling Containers with a Measured Charge, patented by John Schmidt, Jenkinstown, Pa., assignor to Crown Cork & Seal Co., Philadelphia. A method is taught of filling containers with a standard amount of liquid comprising the steps of: flowing the liquid into a reservoir, utilizing adjustable volume measuring chambers, successively filling the measuring chambers with liquid from the reservoir, flowing the liquid from successive measuring chambers into successive containers, continuously sensing the temperature of the liquid while filling successive containers, automatically increasing the volume of the measuring chambers when an increase in temperature is sensed and automatically decreasing the volume of the measuring chambers when a decrease in temperature in the liquid is sensed.

No. 2,795,799. Automatic Activating Device for Aerosol Containers, patented by Joseph Dickerman, Berwyn, Pa. Covered is an atomizer control device for use with an aerosol deodorizer unit adapted to be mounted to a toilet bowl comprising, a housing, means for mounting said unit in said housing, said unit having a discharge valve projecting therefrom, a first member disposed in said housing, a second member telescopically slidably mounted in said first member, means operatively coacting with said second member and releasably contacting said discharge valve, said last mentioned means being capable upon partial separation of said second member from said first member to cause said valve to discharge a portion of the contents of said unit.

No. 2,794,791. Plastigels Containing Hydroxy Fatty Acid Soaps, patented by Temple Chapman Patton and Frederick Milton Hall, Westfield, N. J., assignors to Baker Castor Oil Co., Jersey City. Described is a plastigel composition comprising a fluid dispersion of a vinyl chloride-containing resin in a liquid plasticizer, and, in sufficient amount to effect gelation of said dispersion, from 1 to 15 weight percent, based on the amount of said resin, of an alkaline earth salt of a hydroxy fatty acid containing at least 11 carbon atoms, said composition, after being aged at room temperature for about 300 hours, having a Precision penetrometer reading (150 gm. weight at 15 seconds) of from about 150 to about 200.

No. 2,795,527. Methods for Repelling Insects with Polycyclic Aldehydes and Alcohols, patented by Lyle D. Goodhue and James T. Edmonds, Jr., Bartlesville, Okla., assignors to Phillips Petroleum Co. The method here described for repelling an insect from an area comprises applying 2,3,-4,5-bis(Δ^2-butenylene)tetrahydrofurfuryl alcohol to said area.

—★—

Clarkson Feeder Data

A four-page illustrated folder was published last month by Clarkson Co. Division of Equipment Engineers, Inc., 564 Market Street, San Francisco, giving information on the firm's line of liquid feeding equipment. For the controlled feeding of acids and other corrosive liquids Clarkson makes Model E feeder in polyvinylchloride. The equipment is available also in stainless steel, comes in a wide range of capacities, with manual control mechanisms or a pneumatic bellows operated motor, and is said to be economical in initial cost and maintenance requirements.

glass-lined tanks protect the purity of Allied's

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Dept. EA 4-27-3

Allied Chemical — Nitrogen Division

40 Rector Street, New York 6, N. Y.

Products and PROCESSES

Shampoo Preservative

Cream shampoos, based on anionic detergents, may be attacked by molds or bacteria. In the absence of perfume and preservative such products develop a yeasty and moldy odor, may deteriorate in color. While the presence of perfume usually affords a measure of protection against microbial growth, a preservative should also be used in cream shampoos.

General Aniline & Film Corp. recently secured a patent on the of N-hydroxymethyl phthalimide for this purpose. The compound is said to be effective in the range of 0.10 per cent to 0.1 per cent by weight of the total detergent incorporated in the shampoo. However the specific composition claimed in the patent includes a much higher percentage of preservative.

Formula for the stabilized cream shampoo includes the following parts by weight: glyceryl monostearate, 10; polyglycol monostearate, 20; lanolin, 10; sodium lauryl sulfate, 40; sodium sulfate, five; water, 106; perfume, two; and N-hydroxymethyl phthalimide, 0.6. *Schimmel Briefs*, June 1957.

—★—

Surfactants in Medicine

The incorporation of nonionic surface active agents in medicinal preparations for external and oral application does not introduce any complications, according to a study of physiological toleration of ionic and nonionic surfactants used as solubilizers and emulsifiers. Special attention is given to polyoxyethylene derivatives used in medicinals. Surface active agents must not be incorporated in infusions and their use in injectable solutions is considered questionable.

Physiological toleration of the "Tweens" in laboratory animals and man, the effect on the hemopoietic system in parenteral administration, and on the skin and mucous membrane are discussed. Activity of an externally applied drug may be increased by formulation with a surfactant conferring higher adsorbability. Elsa Ullmann, Mitteilungen der Deutschen Pharmazeutischen Gesellschaft, 27, 1-8, published in *Arch. Pharm.* 290, No. 1, 1957.

—★—

Denture Cleanser

A dry powder or tablet form denture cleanser can be based on a solid compound of the dichloramine type. If made in tablet form, it dissolves readily in water to prepare the cleansing solution in which the artificial denture can be immersed. Such a solution should have a pH of at least 10. British patent 761,377 (1956), W. H. Langwell, Epsom, Surrey.

—★—

New Mona Surfactant

Commercial availability of "Monawet MM-80%" wetting, penetrating, dispersing, and emulsifying agent was announced last month by Mona Industries Inc., Paterson 4, N. J. This latest addition to the "Monawet" line is the sodium salt of di-hexylsulfosuccinic acid. Said to have good hard water and salt resistance it is suggested as an additive in soaps and detergents for improved detergency and hard water characteristics. The compound and its uses are described in folder 212a.

—★—

Fiber Saving Syndets

A fabric conserving solid washing composition is made from a salt of a sulfated or sulfonated synthetic detergent with a metal of the second or third group of the periodic system and another salt of the same detergent. Salts with metals of the second and third periodic groups exist in aqueous solution as electro-negatively charged suspensoids. It has been found that the suspensoids with negative direction exert an oxygen-stabilizing effect and at the same time check to a considerable extent chemical damage to the fiber by the action of oxygen and air. British patent 765,215 (1957), H. Flammer, Heilbronn, Germany.

—★—

Antifoam Concentrates

Hodag Chemical Corp., Chicago manufacturer of antifoam and other surface active agents, recently introduced a series of "instant" antifoams in flake or powder form. "HC-300" series of antifoam concentrates are added to water in a concentration of one half to one per cent or whatever the process may require. The resulting emulsion is said to be stable over considerable periods.

Purchase of antifoams in dry form effects economies in freight charges and storage space. The material is packaged in the units specified by the user for his particular emulsion. This service eliminates waste and a number of handling problems. In addition to a series of standard formulations Hodag is prepared to formulate for individual requirements. Further information from the manufacturer at 7247 North Central Park, Chicago 45.

—★—

Surveys British Syndets

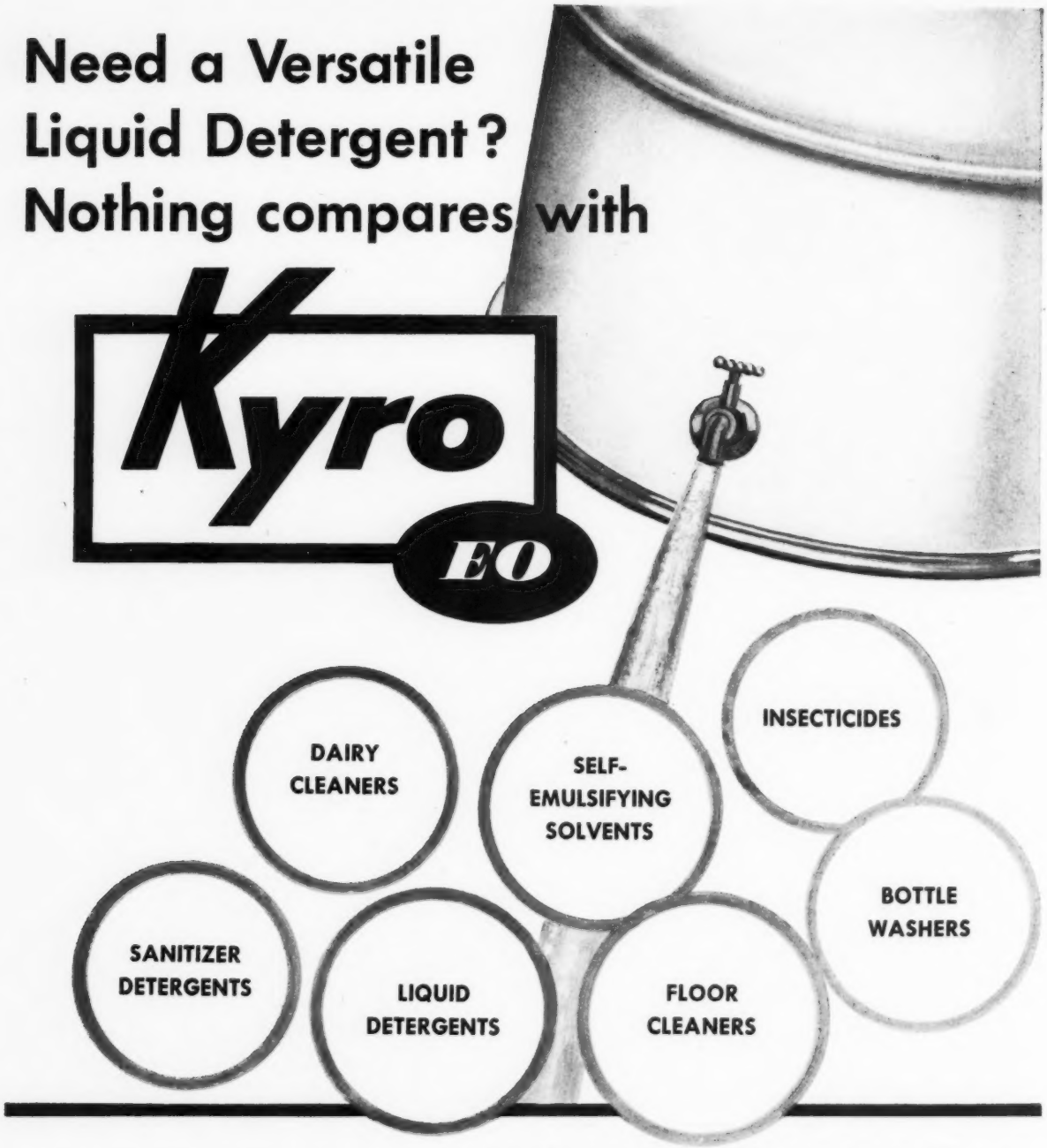
Ampholytic surfactants, especially lauryl sulfoacetate, are suitable for the formulation of synthetic toilet bars, either in combination with soap or alone in the presence of sufficient amounts of electrolyte, according to an article by R. L. Smith published in the June issue of the *Manufacturing Chemist* (p. 281). Dr. Smith disagrees with John W. McCutcheon whom he quotes as having suggested betaine type of amphoterics for this use.

One of the greatest hardly tapped industrial potentials of amphoterics rests on their wetting ability and detergency in the presence of five to 20 per cent of salts. Ampholytic surface-active agents, reasonably priced, may give rise to industrial processes which have previously not been regarded as feasible.

(*Continued on Page* 169)

Need a Versatile Liquid Detergent? Nothing compares with

Kyro EO



Offers superior detergency, wetting and emulsifying powers plus exceptional compatibility!

You can formulate with the high degree of efficiency that brings increased profits by taking advantage of the exceptional physical and chemical properties of KYRO EO. This neutral nonionic synthetic detergent of the 100% alkyl-phenol ethylene oxide condensate type is a remarkably clear, viscous, free-flowing liquid. It has a clean, pleasant odor and is perfectly compatible with anionics, cationics and inorganic salts. In addition, it has ideal detergent, wetting and emulsifying powers and surface tension lowering ability. For further information on KYRO EO, write to:

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PRODUCTION Clinic

By E. G. Thomssen, Ph. D.

THE production man, like many another specialist, may over-concentrate on the job in hand and thus loose sight of the broader economic issues which actually determine whether his product sells or not and the size of its market. As we pointed out in last month's column he is not likely to forget rising cost of labor and raw materials, escalator provisions and other factors adding to production costs and to his daily headaches. However, he may not be aware that inflationary trends may actually increase sales volumes.

The stimulating effect of inflation upon business is based on psychological as well as tangible factors. A man whose weekly wage amounts to a large number of dollars, however reduced in purchasing power, will more readily part with them in exchange for goods and even luxuries, than the man who draws fewer dollars of greater buying power. Furthermore, the ever present though subconscious knowledge of the dollar's waning value makes some purchases of goods or services appear reasonable where they would previously have been condemned as extravagant. Every inflation brings a "flight of capital into tangible values."

Progressive devaluation of cash, patently obvious to everyone, has turned legions of small and medium wage earners into investors. This has placed at the disposal of industry a large and previously untapped source of capital. In addition, the co-ownership of the means of production by the average small middle class citizen is a highly desirable brake against radicalism in politics.

General prosperity and greater readiness to spend have boosted public building activities. These in turn create employment and lead to further requirements of goods and services. A new library

Dr. E. G. Thomssen

or school or hospital has to be staffed, furnished, and maintained.

Increased earnings are the main reason for the prevailing high level of personal income. Liberalization of social security payments by the government are an additional factor which has greatly added to the purchasing power of an ever growing section of our population. Women now become eligible for social security payment at the age of 62. Farmers and other groups, not previously covered, now come under the provisions of the Act. Approximately 21 billion dollars a year are disbursed as social security payments, which represents about two-fifths of the entire national income during depression years. Sales volumes are materially aided by this boost in personal incomes.

Although inflation may have some points to recommend it while it is controlled, run-away inflation is a catastrophy beyond the imagination of anyone who has not experienced its cruel consequences. What can the manufacturer do to combat its ever happening here? He can keep prices within reason by compensating with improved manufacturing methods for the advancing costs of raw materials and labor. Mechanization and automation will cut the labor bill. Research and better processing equipment enables industry to upgrade raw materials which were previously considered unsuitable or substandard. Better techniques can minimize waste by reducing rejects to a minimum.

In recent years industry has learned to follow not only labor but also raw material sources, cutting freight rates and time lags.

Market research and product development can, as we pointed out last month, contribute to rationalized production by opening new markets and avoiding still-born products.

Companies invite the suggestions of their employees concerning improvement of operations. Cash awards are given for adopted proposals, which frequently lead to major savings or improvements of products or processes.

Actually, by meeting the challenge of high wages and expensive raw materials American industry has gained in ingenuity and streamlining technics. Some U. S. firms make the same products here and in low wage countries overseas. Frequently they find that they can make the goods at lower cost with U. S. up-to-date machinery than they can with cheap labor, and less advanced techniques.

Trouble Spotter

A device said to locate mechanical trouble without dismantling of machinery is available from International Research and Development Co., Columbus, O. The device locates broken gears in gear reducers, measures displacement, and gauges the balance of accessible rotating components.

Vermiculite Data

A new booklet reviewing established and potential uses of vermiculite was published recently by Zonolite Co., Chicago 2. Vermiculite is a granular crystalline mineral of low density and is available in a wide range of particle sizes. In the chemical specialties field it

The ULTRAWETS wet, penetrate, clean, emulsify.

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It's like having extra help on the cleaning force when you put Atlantic ULTRAWETS to work on factory and institutional clean-up jobs.

ULTRAWET 60L is a superior liquid alkyl aryl sulfonate that works well in hot or cold water, hard or soft water. It increases the efficiency of floor scrubbing, heavy-duty liquids and hard surface cleaners as well as liquid sanitizers . . . emulsifies grease, speeds soil removal, keeps solids in uniform suspension and leaves no soap scum.

Leading compounders find that ULTRAWET 60L provides uniform high quality and flexibility in the formulation of all-purpose liquid cleaners. In scrub soap formulations it allows the use of a higher phosphate content with resulting clear solutions. Furthermore, it provides excellent controlled pH of alkalinity.

The ULTRAWET product advantages add up to sales advantages for you. Atlantic ULTRAWETS are available in flake, bead and liquid form. For even greater economy, deliveries can be made in bulk shipments.

For more information on our cost-cutting ULTRAWETS, write, call or wire The Atlantic Refining Company at the nearest office listed.

ATLANTIC
PETROLEUM CHEMICALS

Philadelphia, Providence, Charlotte, Chicago

In the West: L. H. Butcher Co.

In Canada: Naugatuck Chemicals Division of Dominion Rubber Company, Ltd.

In Europe: Atlantic Chemicals SAB, Antwerp, Belgium

In South America: Atlantic Refining Company of Brazil, Rio de Janeiro

is mainly used as a carrier for insecticides and fungicides and as a cushioning material. The book and samples of vermiculite are available from the company.

Vegetable Parchment

"Patapar" vegetable parchment comes with a wide range of different properties to answer special needs. It may serve as release liners for pressure sensitive and tacky surfaces, inner grease proof ply for multiwall bags and fiber drums and as industrial filter papers. The parchment is made by Paterson Parchment Paper Co., Bristol, Pa.

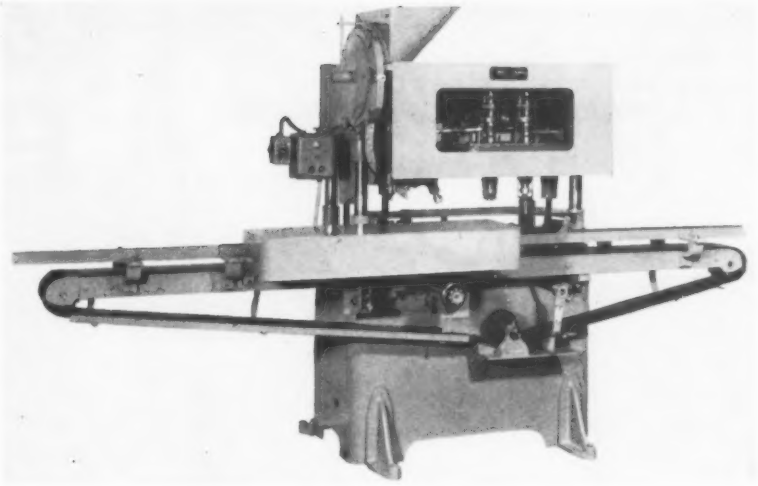
British Detergents

(*From Page* 165)

The emergence of new and interesting quaternary ammonium compounds is anticipated owing to the ready availability of long chain alkyl amines to replace alkyl halides, normally used as starting material. Lauryl dimethyl amine oxide may be an example of this new trend. This material can be more reasonably and easily prepared than for instance cetyl trimethyl ammonium bromide, according to Dr. Smith. Pleasant odor, good color and very satisfactory bactericidal and bacteriostatic properties are claimed for this product.

While these and other changes are seen in the field of specialized synthetic detergents, petroleum derived surfactants will remain the mainstay of bulk products. This is in keeping with the growth of the petrochemical industries. Alkyl aryl sulfonates, similar to the presently used dodecyl benzene or a development from the latter, where the dodecyl chain is propylene tetramer, will continue to predominate the bulk market along with sulfated olefines and octyl phenol condensates.

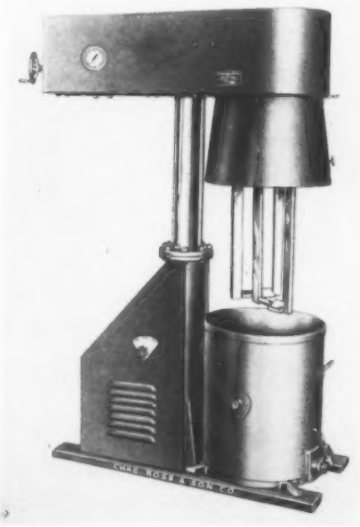
No fundamental changes in additives such as foam stabilizers are anticipated. Products of the Oxo or related processes or of the Reed reaction are not expected by Dr. Smith to enter the British detergent scene, as opposed to the United States and Germany.



—★—

New Ross Mixer Line

A new line of heavy duty, change can mixers, suitable for processing paste-like materials, was developed recently by Charles Ross & Son Co., Brooklyn, N. Y. The new units are available in working capacities of from one to 150 gallons. They feature double planetary mixing action and a vertical hydraulic lift, and have a detachable spout for adding of material while machine is in operation. Full details, including specifications, may be obtained from the company, 148 Classon Ave., Brooklyn.



New Resina Sealer

A new automatic sealing machine designed for use on cans using the standard one-inch seal, was introduced recently by Resina Automatic Machinery Co., 572 Smith St., Brooklyn, N. Y. The new unit, which handles containers directly from the filling line, can be used to seal pints to gallons on center-hole cans. It operates also with pints and quarts on off-center type containers at speeds of up to 60 per minute. The machine is equipped with two one-half hp. motors. Conveyor height is 33 inches, overall length is nine feet.

—★—

Hopper for Corrosives

A polyethylene hopper for filtering of corrosive slurries was announced recently by American Agile Corp., Maple Heights, Cleveland, O. Because it is made of polyethylene, the unit is chemically inert and resistant to caustics, fluorides, hypochlorites and other corrosives, combines light weight with strength.

The whole hopper is 42 inches high, 24¾ inches in diameter across the top, with conical sections 24 inches high. The one inch thick filter plate has three quarter inch holes on one inch centers. The cone portion is fitted with a 13½ inch diameter flange for connection to existing equipment. Additional data may be obtained from American Agile.

PILOT HD-90

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MAKES CLEAR SOLUTIONS
HAS HIGH SUDSING AND EMULSIFYING
HAS EXCELLENT PERFUMABILITY—ODORLESS BASE
REQUIRES LESS LABOR AND INVESTMENT
IS AVAILABLE IN ANY QUANTITY

because it's **COLD PROCESSED**
HIGH ACTIVE ALKYL ARYL SULFONATE
90.0% minimum active drum dried flake

Only cold processing at temperatures below freezing can produce *concentrated uniform* sulfonation! Every micelle produced in solution from Pilot HD-90 is homogeneously effective for such use as household sudsers, industrial detergents and scouring powders. Cold processing eliminates undesirable side reactions, hydrocarbon odors, and any rearrangement of the molecular structure.

Pilot HD-90's high quality in the making and mixing of dry products is equally applicable to the manufacture of liquid detergents.

Pilot HD-90's concentrated and sulfate-free properties *eliminate filtering;* give liquids the highest sudsing and cleaning powers obtainable. Write for formulas and samples. *Only Pilot HD-90 Detergent features this premium quality at competitive prices!*

Packed in polyethylene lined fibre drums and in 5-ply paper bags.

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Dodecyl Benzene Sulfonates
Sodium Toluene Sulfonate

SOAP PLANT *Observer*

By John W. McCutcheon

IN designing a new plant, management, construction and process engineers must make a coordinated planning effort. The problems governing plant design are of such a complex nature that their solution requires all the knowledge, foresight, imagination and resources of those concerned. There are no ready answers.

Not long ago we sat in on a conference of process and structural engineers discussing the construction of a new detergent plant. All questions dealing with building material, load weights, drainage, soil structure and fill were handled "one, two, three." By contrast, the process engineers did not appear to have definite answers to anything. Where should the bins be located; what type of mixing equipment should be used; should scale tanks be used for each bin or only on one side? Of course, the general impression gained by the owners was that the process engineers were not on the ball! Such a conference could have wound up with the construction engineers putting up a plant so high, so wide and so long and then saying to the processing group:– "there you are, now go ahead and put in the equipment."

Actually, these construction engineers looked upon the processing equipment of the plant as just so much furniture, to be moved in when they were through with the walls, roof and floor. Many plants are built just that way, with the result that thousands of waste dollars are spent each year cutting through existing walls, tunneling conveyor ducts under newly laid concrete, reinforcing floors for added load weights and poking holes through roofs that have been laid out straight and even.

Under these unfavorable conditions the process engineer never really has a chance to use his art to its full extent. Once the structure

has been erected independently, he is always fighting compromise situations! The conveyor duct is laid along the ceiling instead of under the floor; the scale tank is on the first floor because of floor loading considerations, whereas one man could have operated it without pumps if it had been on an upper floor.

One principal reason for the process engineer's reluctance to be pinned down on details is the fact that he sees each operation as a complex whole – one part depending on another. Where the control valves are located depends very much on the working area where the operator will be stationed. Valves in turn depend on the general pipe layout. Ease of repair, space consumed, distance from controls must be considered. Actually, the location of the roof is immaterial. The ideal situation, from the process engineer's point of view, prevails when the engineering details are settled first, and the structure is built around the processing layout. However, this ideal can rarely be attained. Construction engineers must plan ahead and need specific information to enable them to do so efficiently. Plans must be set and agreed upon. Vacillations may be costly in time and money.

The use of models is one way towards coordinated planning. By providing a three dimensional aspect, they pay for the comparatively small cost and trouble invested in their preparation. The models' chief function is helping management, usually not skilled in blue print reading, to visualize exactly what it is buying. This procedure invariably saves costly modifications as the job proceeds.

The building of models has become standard practice on all large construction projects. It can be profitably applied to small jobs, provided that the planners are satisfied to present utilitarian models rather than fancy ones.

What are the principal factors governing the design of a simple chemical mixing plant making, say, industrial cleaners? First of all the planning engineer must know the type and size of the operation involved. His task is complicated by the fact that this information will not be exact in the type of project which we have in mind. Flexibility is essential in a chemical specialties plant, and the process engineer cannot afford to forget this prerequisite for a moment. Conversely, in a glycerine recovery or fat splitting plant, such flexibility is not required and may even be a hindrance. In such industries design is chiefly concerned with expansion in one direction only.

As a comparatively simple illustration of the information needed for successful planning of a specialties plant, we present an example strictly limited in size and variety of operations. We shall suppose that 90 per cent of the production capacity will be engaged in making five products: 1. dishwashing compound; 2. a light duty concrete floor cleaner; 3. a powder form drinking glass cleaner; 4. an acid cleaner for stainless steel; and 5. a general purpose institutional cleaner. The ratio of production will be:

	Per cent
Dishwashing compound	40
Concrete floor cleaner	5
Glass cleaner	10
Acid cleaner for steel	5
General purpose institutional cleaner	40

1

NIAGARA FALLS, N. Y.
50% and 73% Liquid (in tank cars)

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2

SALTVILLE, VA.
50% and 73% Liquid (in tank cars)
76% Solid, Flake, Granular, and Ground (in drum shipments)

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. . . your source of supply is constantly backed up by five other plants.

For specifications and schedules, call your Olin Mathieson sales representative.

3

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50% and 73% Liquid (in tank cars)
50% Liquid (in barges)

4

BRUNSWICK, GA.
50% Liquid (in tank cars and barges)

5

McINTOSH, ALA.
50% and 73% Liquid (in tank cars)
50% Liquid (in barges)

6

LAKE CHARLES, LA.
50% and 73% Liquid (in tank cars)
50% Liquid (in barges and tankers)
76% Solid and Flake
(in drum shipments)

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ORGANICS: Ethylene Oxide • Ethylene Glycols • Polyethylene Glycols • Glycol Ether Solvents • Ethylene Dichloride • Dichloroethylether • Formaldehyde • Methanol Sodium Methylate • Hexamine • Ethylene Diamine • Polyamines • Ethanolamines • Trichlorophenol • Surfactants

4920

1. Institutional Machine Dishwashing Compounds (20 tons a day)

	Composition Per cent	Tons per day
Ethylene oxide condensate of an alkyl phenol	2	0.4
Sod. tripolyphosphate	30	6.0
Sod. metasilicate	45	9.0
Borax	10	2.0
Soda ash, light	13	2.6
	100	20

2. Concrete Floor Cleaner (2½ tons a day)

	Composition Per cent	Tons per day
Ethylene oxide condensate of an alkyl phenol	3	0.075
Sod. metasilicate	45	1.125
Sod. sulfate (anhyd)	52	1.300
	100	2.50

3. Glass Cleaner (5 tons a day)

	Composition Per cent	Tons per day
Ethylene oxide condensate of an alkyl phenol	4	0.20
Sod. tripolyhphosphate	25	1.25
Trisodium phosphate	10	0.50
Sod. sulfate (anhyd)	61	3.05
	100	5.00

4. Acid Cleaner for Steel (2½ tons a day)

	Composition Per cent	Tons per day
Ethylene oxide condensate of an alkyl phenol	2	0.050
Phosphoric acid	3	0.075
Citric acid	4	0.100
Methyl ethyl ketone	3	0.075
Water	88	2.200
	100	2.50

5. Institutional Cleaner (20 tons a day)

	Composition Per cent	Tons per day
Ethylene oxide condensate of an alkyl phenol	4	.8
40% alkyl aryl sulfonate powder	10	2.0
Sod. tripolyphosphate	20	4.0
Sod. metasilicate	5	1.0
Sod. sesquicarbonate	30	6.0
Sod. sulfate (anhyd.)	31	6.2
	100	20.0

Raw Materials Totals

	Tons per day
Sod. tripolyphosphate	11.250
Sod. metasilicate	11.125
Sod. sulfate	10.550
Sod. sesquicarbonate	6.000
Soda ash light	2.600
Borax	2.000
Trisod. phosphate	.500
Liquid detergent	1.525
Sod. dodecylbenzene sulfonate 40% active	2.000
Phosphoric acid	.075
Citric acid	.100
Methyl ethyl ketone	.075
	47.80

Overall production of the plant will amount to 50 tons a day. Formulas for the individual products are supplied and the amounts of raw materials which must pass into the plant are calculated. These data are presented in the tables above.

(*To be continued*)

Batch Blender Data

Sturtevant Mill Co., Park and Clayton Streets, Boston 22, recently announced a four-page illustrated folder giving detailed information on the firm's line of rotary batch blending equipment. Approximate specifications and descriptive material on Sturtevant's nine different batch blender models are included. Brochure BL-157 can be requested from the above address.

—★—

New Pellet Mill Bulletin

A four-page bulletin describing its new pellet mill was announced recently by Sprout-Waldron, Inc., Muncy, Pa. Called "Pellet Ace," the unit is designed for processing powdered and dusty materials, such as detergents, insecticides and polyvinyl chloride, into compressed pellets. The folder is fully illustrated and provides information on specifications and applications of the new machine. Copies of the bulletin may be obtained from the company.

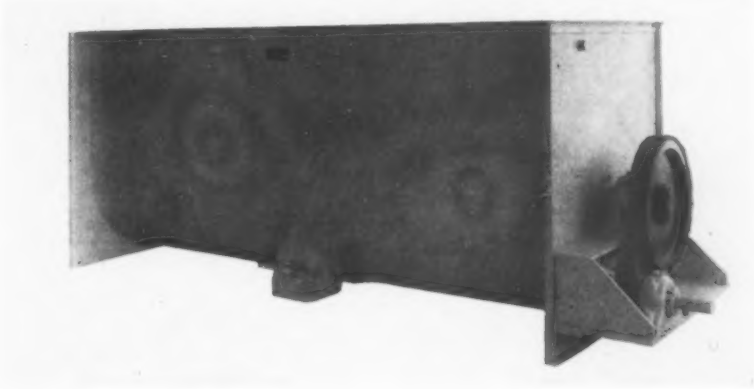
Syndets in Sewage

The effect of synthetic detergents on the treatment of sewage was studied and reported by H. Mann and D. W. M. Herbert of the Water Pollution Research Laboratory, Stevenage, England. (*Water and Sanit. Engr.* 6, 206-9, 1957.) The work was done as part of a project to determine whether detergents which had passed through sewage treatment plants were as toxic as those which had not. These experiments, using a percolating filter as treatment method, gave no reason to believe that detergents would adversely affect the quality of the effluent. After treatment by laboratory scale activated sludge units somewhat more adverse effects were observed. (Through *Chem. Abstracts*, Vol. 51, p. 8339.)

New Rapids Line

Rapids Machinery Co., Marion, Ia., recently announced a new line of "Marion" horizontal dry mixers designed with a new roller chain drive. The new device, which is said to provide silent and easily-controlled drive, may also be obtained in a conversion kit for use on standard "Marion" units. Both roller chain and gear driven mixers are available in capacities of 300, 500, 1,000, 2,000, 3,000, 4,000, 6,000 and 8,000 pounds.

"Marion" horizontal dry mixer featuring new roller chain drive.



She prefers . . . dishwashing compounds containing phosphates

Nine times out of ten, when the coffee "klatsch" breaks up, phosphates take over . . . cups, dishes, and glassware go back to the cupboard sparkling clean . . . without a trace of coffee stain or water spots. Today, many leading producers of dishwashing compounds for automatic equipment specify Victor *chlorinated trisodium phosphate*. They know it makes dishwashing compounds smell fresh . . . does a cleaner and a more antiseptic job. Detergent manufacturers, too, know it pays to see Victor—for *sodium tripolyphosphate* and *tetrasodium pyrophosphate*. Both provide outstanding water-softening action with detergent properties.

VICTOR CHEMICAL WORKS

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American Distilled Oils

Produced at our Patchogue, L.I., N. Y. Factory

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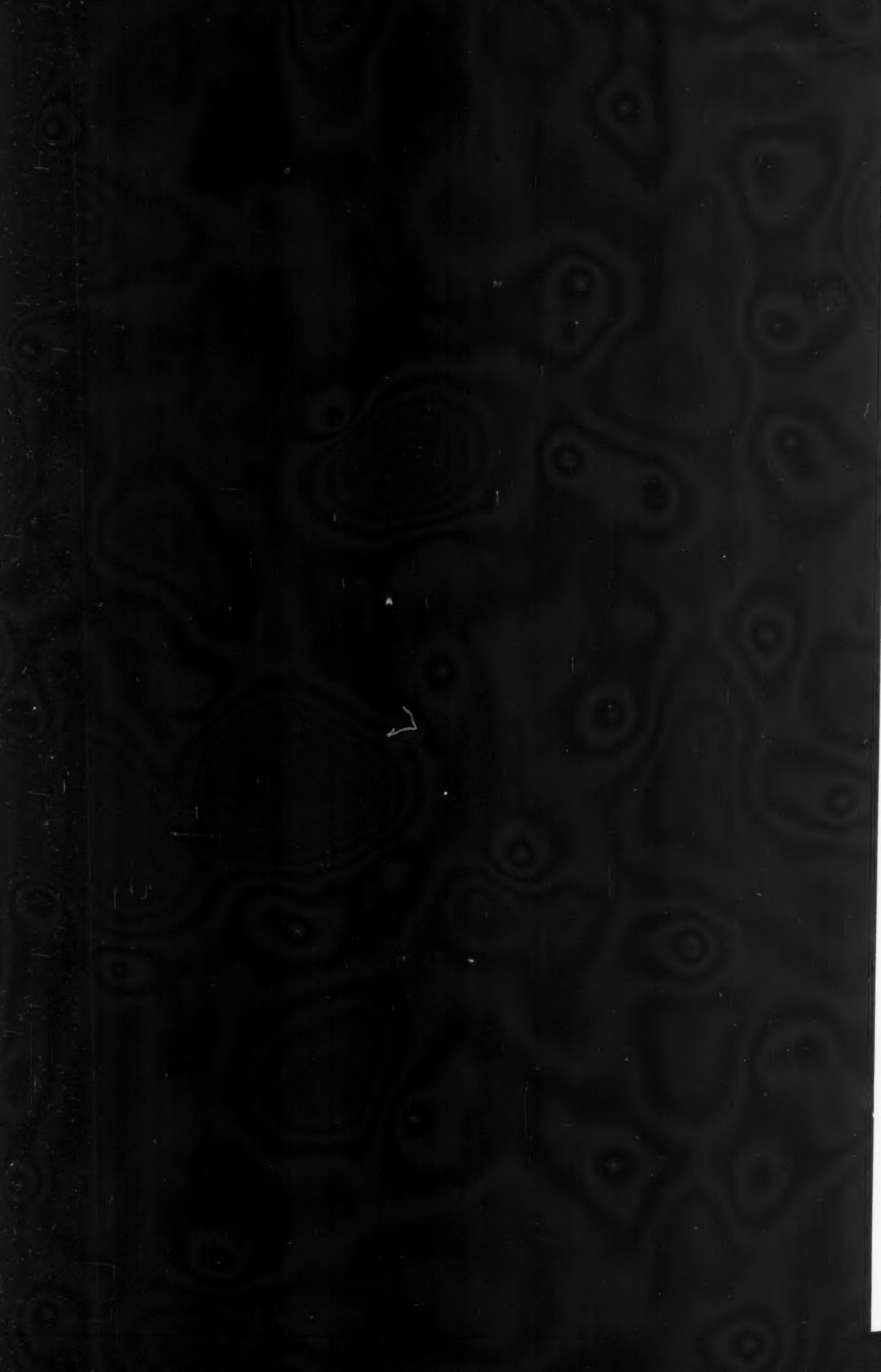


News...

PEOPLE • PRODUCTS • PLANTS

Babbitt Executive Changes

* * *

Fels Aids Food Center

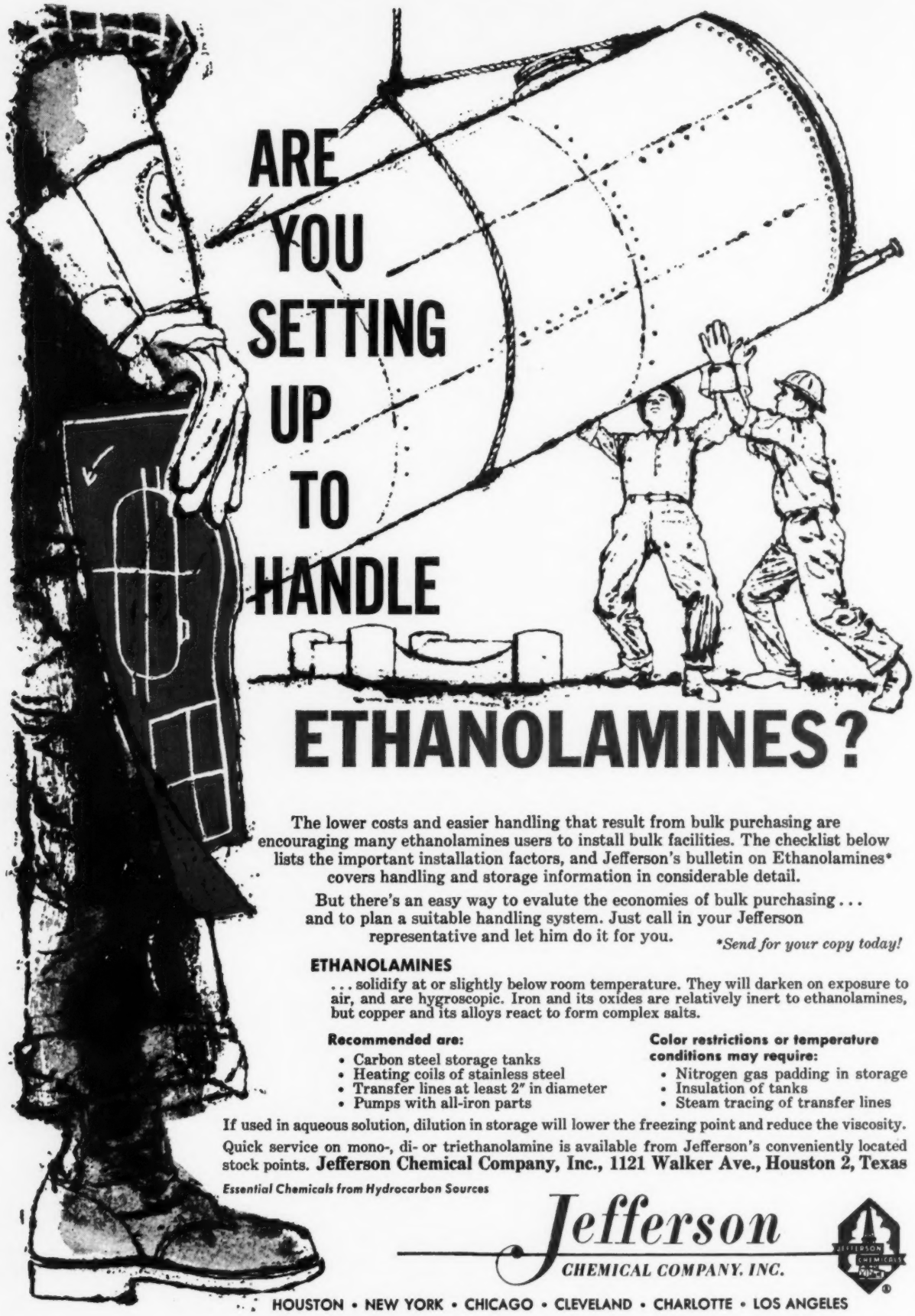
* * *

Cawley to Amer. Home Prods.

* * *

New Stanley Vice-Pres.

Thomas S. Reed is newly appointed sales manager of the industrial detergents products department of the industrial division of Lever Brothers Co., New York. Formerly assistant director of sales of the consumer products division of Monsanto Chemical Co., he joined Lever in May, 1957, when Lever acquired the "All" detergents product line from Monsanto.



ARE YOU SETTING UP TO HANDLE ETHANOLAMINES?

The lower costs and easier handling that result from bulk purchasing are encouraging many ethanolamines users to install bulk facilities. The checklist below lists the important installation factors, and Jefferson's bulletin on Ethanolamines* covers handling and storage information in considerable detail.

But there's an easy way to evalute the economies of bulk purchasing . . . and to plan a suitable handling system. Just call in your Jefferson representative and let him do it for you.

**Send for your copy today!*

ETHANOLAMINES

. . . solidify at or slightly below room temperature. They will darken on exposure to air, and are hygroscopic. Iron and its oxides are relatively inert to ethanolamines, but copper and its alloys react to form complex salts.

Recommended are:

- Carbon steel storage tanks
- Heating coils of stainless steel
- Transfer lines at least 2" in diameter
- Pumps with all-iron parts

Color restrictions or temperature conditions may require:

- Nitrogen gas padding in storage
- Insulation of tanks
- Steam tracing of transfer lines

If used in aqueous solution, dilution in storage will lower the freezing point and reduce the viscosity.

Quick service on mono-, di- or triethanolamine is available from Jefferson's conveniently located stock points. **Jefferson Chemical Company, Inc., 1121 Walker Ave., Houston 2, Texas**

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News

Two Lever Appointments

Appointments of Thomas S. Reed as sales manager of the industrial detergents products depart-

Richard C. Wood

ment and Richard C. Wood as sales manager of the industrial edible products department were announced last month by Lever Brothers Co., New York.

Mr. Reed formerly was assistant sales director of the consumer product division of Monsanto Chemical Co., St. Louis. He joined Lever in May, when the company acquired the marketing rights and trademarks of "All" detergent products from Monsanto.

Mr. Wood joined the company in 1955 as development manager for the industrial division. Last year he was appointed sales manager of the industrial detergents products department. Previously, he had held sales management posts with both Commercial Solvents Corp. and General Aniline and Film Corp., both of New York.

★

Armour Appoints Nielsen

Armour and Co., Chicago, recently announced appointment of Nielsen Coupon Clearing House, Clinton, Ia., to handle redemption of all coupons from the company's current merchandising drive for "Dial" soap. According to Paul F. Telvis, general manager of the company's soap division, the clearing house will serve Armour by providing prompt redemption and by assuming all responsibility for auditing and dealer payments.

★

Pacheco in New Post

James F. Pacheco has been appointed special technical advisor to the commercial detergents department of Calgon Co., a division of Hagan Chemicals & Controls, Inc., Pittsburgh. Mr. Pacheco has been with Hagan since 1954 as a research chemist. In his new assignment, he will serve as coordinator of field information and consultant on water and detergency problems of restaurants, institutions, and industry.

★

Fatty Acid Production Up

Production of saturated and unsaturated fatty acids in May was 34.6 million pounds, about 1.4 million pounds above the April level, but about 2.5 million pounds below production reported for May, 1956, according to a report issued recently by the Fatty Acid Producers' Council Division of the Association of American Soap & Glycerine Producers, Inc.

Sales in May totaled 34.8 million pounds, an increase of approximately 2.7 million pounds from the April figure. However, compared with May, 1956, sales declined about 1.8 million pounds.

★

Kauffman Joins Colgate

John P. Kauffman has joined Colgate-Palmolive Co., New York, as director of marketing for the household products division, it was announced last month by William T. Miller, division vice-president. He formerly was vice-president of the foods division of Anderson Clayton Co., Dallas, Tex. In his new capacity, Mr. Kauffman will be responsible for all phases of the division's marketing program.

Purex Appoints Broad

Howard J. Broad has been appointed a brand advertising manager of Purex Corp., Ltd.,

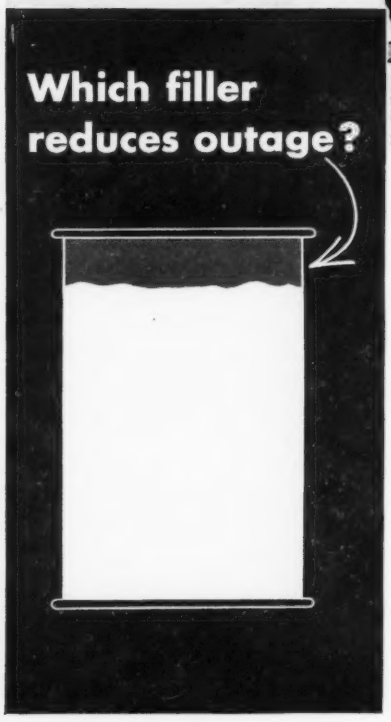
Howard J. Broad

South Gate, Calif., it was announced recently by Leslie C. Bruce, director of advertising and promotion. Formerly an account executive with Batten, Barton, Durstine & Osborn in Los Angeles, Mr. Broad serviced the agency's packaged goods accounts. In his new post, he will be responsible for national advertising and promotional plans of "Blue White" dry bluing.

★

New P&G Community Film

Procter & Gamble Co., Cincinnati, recently announced production of a film called "The Quiet Crowd" which it is making available at the film print cost of $79 to Community Chests and similar organizations throughout the country. P&G, which is absorbing the production costs, says the "frankly emotional" appeal of the film is designed to illustrate how various types of community agencies give extra aid to citizens above and beyond that furnished by municipal governments. The film will be distributed through the United Community Funds and Councils, New York. It runs 14 minutes and is 16-mm color.



Celite diatomite does both jobs in your cleanser

WITH THE SIMPLE addition of one mineral filler, your cleanser acquires two important properties:

1. Celite* diatomite keeps cleansers fragrant longer because it is so highly absorbent . . . soaks up odorants like a sponge and retains them for weeks after package is opened.

2. Celite also eliminates outage. Composed of microscopic irregularly shaped particles, Celite won't pack down, keeps your package fluffed up to full size right to the point of use.

Mined and processed by Johns-Manville from one of the world's purest deposits of diatomaceous silica, Celite is available in a wide range of grades. Find out which grade best meets your needs. Write to Johns-Manville, Box 14, New York 16, N.Y. In Canada, Port Credit, Ontario.

*Celite is Johns-Manville's registered trade mark for its diatomaceous silica products

JOHNS-MANVILLE JM PRODUCTS

Johns-Manville CELITE

INDUSTRY'S MOST VERSATILE MINERAL FILLER

Samuels and Shincel Head "Team" to Manage Babbitt; Mendleson Chairman

SAMUEL MENDLESON, president of B. T. Babbitt, Inc., New York, for the past six years,

Harold H. Shincel

has been named chairman of the board, it was announced last month by the board of directors. Active operation of the firm will be handled by Harold H. Shincel and A. O. Samuels, both members of the executive committee. They will operate "as a team." The company described the move as part of a "broad new program of expansion and product diversification."

Under this plan, Mr. Shincel, who is president of Consolidated Metal Products Corp., Albany, N. Y., and a member of the Babbitt board, will be responsible for the executive direction of finance, accounting, general administration and factory operations. Mr. Samuels, a Babbitt vice-president and president of Connecticut Chemical Research Corp., Bridgeport, Conn., will be in charge of sales, marketing, market research, advertising and sales promotion.

Working under Mr. Samuels will be John L. Woolley, assistant vice-president of the company, and Jack Schenberg, vice-president of Bostwick Laboratories, Bridgeport. Babbitt acquired Bostwick last year. Mr. Woolley will direct sales and marketing of all lines of Babbitt grocery products, while Mr. Schenberg will serve in a similar capacity for all non-grocery products.

Other executive appointments in the new staff realignments include the advancement of Jack Phillips to the new post of director of advertising. Mr. Phillips will supervise integration of all advertising and sales promotion activities. He previously was "Bab-O" marketing manager. Gilbert Plugge, formerly "Glim" marketing manager has been named to the new post of field manager of Babbitt products.

The new management group said it plans "an expanded budget for the most aggressive advertising and sales promotion program carried on by Babbitt in recent years.

Mr. Mendleson, who joined Babbitt in 1920, was elected to the board of directors in 1931 and was named executive vice-president in 1946. He was the fourth member of the family to head the concern. As president, he succeeded the late

Samuel Mendleson

Alan N. Mendleson, whose grandfather, the late Aaron Mendleson, and father, the late Jerome M. Mendleson, had previously been president.

Mr. Mendleson succeeds Frank L. Weill, who was chairman since last September. Mr. Weill, a director since 1923, will continue with the firm in that capacity.

In line with the extensive executive changes, Babbitt also announced a realignment in its advertising set up.

Dancer - Fitzgerald - Sample, the firm's agency for "Bab-O" and the aerosol products of its Bostwick

Frank L. Weill

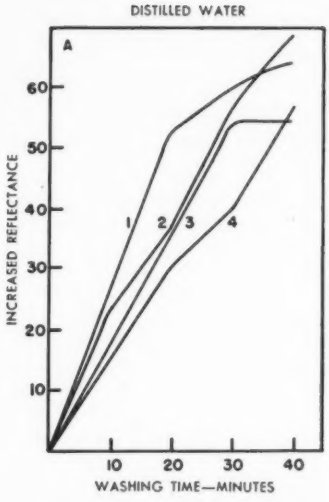
Jack Schenberg

John L. Woolley

WORKING ON A LIQUID DETERGENT?

Here's a choice of Kasil Potassium Silicates to improve cleansing power. Kasil Potassium Silicates have good detergent action—you can increase sudsing and improve soil suspension properties. The chart is based on a study to measure the speed and efficiency of potassium silicates in removing soil.

If you need a sodium-free silicate, let us suggest a Kasil for your own experiments. One of Kasil Potassium Silicates can fit your formulas for a liquid detergent or a semi-paste soap.



Removal of graphite soil at 60° C. with 0.65% detergent consisting of 80% potash soap and 20% of a builder. (1) Kasil #1, (2) Kasil #6, (3) potassium carbonate, (4) soap alone.

PQ SOLUBLE SILICATES

PHILADELPHIA QUARTZ COMPANY

1152 Public Ledger Building, Philadelphia 6, Pa.

Associates: *Philadelphia Quartz Co. of Calif. Berkeley & Los Angeles, Calif., Tacoma, Wash.; National Silicates Limited, Toronto, Canada*
Distributors in over 65 cities

TRADEMARKS REG. U. S. PAT. OFF.

PQ WORKS: ANDERSON, IND., BALTIMORE, MD., BUFFALO, N. Y. CHESTER, PA., JEFFERSONVILLE, IND., KANSAS CITY, KANS., RAHWAY, N. J., ST. LOUIS, MO., UTICA, ILL.

Division, has resigned because of product conflicts.

Donahue & Coe has been named to handle the advertising for "Bab-O", the aerosol products of Bostwick; "Cameo" copper cleaner, "Am-O" and the "Lye" brands.

Doyle - Dane - Bernbach has been appointed to handle advertising for "Glim" liquid detergent.

★

Expands Ethylene Plant

Monsanto Chemical Co., St. Louis, recently announced completion of a multi-million dollar expansion of its ethylene production facilities at Texas City, Tex. Under construction since March, 1956, the new facilities will increase ethylene production by 150 per cent. Monsanto uses the material as an intermediate in manufacture of polyethylene, styrene monomer and vinyl chloride monomer.

★

Nat. Starch Names Two

National Starch Products, Inc., New York, recently announced appointments of William Herbst and Irving Martin as supervisor of starch application research and senior chemist, respectively. Both men will headquarter at the firm's research laboratory in Plainfield, N. J. Mr. Herbst has been with National since 1952, while Mr. Martin joined the firm in 1945.

★

Pennsalt Sales Higher

Pennsalt Chemicals Corp., Philadelphia, last month reported an increase in sales and a decline in income and earnings for the first half of 1957. Net sales totaled $40,798,282, as compared with $37,118,293, in 1956. Net income for this year was $3,897,195, equal to share earnings of $1.53 cents, as compared with $4,361,036 and $1.73. in the first six months of 1956.

In the 1957 second quarter, Pennsalt reported sales of $21,687,-139, as compared with $19,862,226, a year ago. Net income, however, declined to $1,865,015, or 72 cents per common share, from $2,521,-214, or $1.01, per share in 1956.

Cawley to American Home

Appointment of John A. Cawley as assistant to the president of American Home Products Corp.,

John A. Cawley

New York, was announced recently. For the past two years, Mr. Cawley has been president of George W. Luft Co., New York. Prior to that, he served for 16 years with Miles Laboratories, Inc., and was vice-president when he resigned. Mr. Cawley is a member of the executive committee of the Drug, Chemical and Allied Trades Section of the New York Board of Trade and a director of the Toilet Goods Association.

★

Nat. Aniline Names Draper

Appointment of Neal M. Draper as assistant to the executive vice-president of National Aniline Division of Allied Chemical & Dye Corp., New York, was announced

Neal M. Draper

last month. Mr. Draper had been assistant sales director for the firm's Solvay Process Division, with which he was associated for 22 years.

Starting as a salesman in the St. Louis office, Mr. Draper was named branch manager in 1947. In 1951 he was appointed manager of the ammonium and potassium section in the New York central sales office, and shortly thereafter was advanced to assistant director of sales.

★

Heads Milner Broadcasting

Howard S. Cohoon, president of Dumas Milner Corp., (formerly Milner Products Corp.) Jackson, Miss., manufacturers of "Pine Sol" and "Perma Starch," has been appointed president of the newly-organized Dumas Milner Broadcasting Co., it was announced recently. The company recently acquired its first radio station, WJQS, the CBS outlet in Jackson.

Mr. Cohoon, who was executive vice-president prior to becoming president two years ago, in which post he continues, joined Milner in 1948, when it was known as Magnolia Chemical Co., a janitorial supply firm with three employees, occupying 800 square feet. Today the firm occupies more than 25,000 square feet of floor space in its Jackson plant alone, and has more than 80 brokers with a sales force of 600 and 85 warehouses throughout the United States.

★

'Sweetheart' Display Contest

Three hundred retail grocers won a total of $10,875 in cash prizes in the recent "Sweetheart" display contest, it was announced recently by Purex Corp., Ltd., South Gate, Calif. The contest was held in conjunction with the "'Sweetheart' Dream Come True Contest," in which the grand prize is a $37,150 custom built house.

First prize of $1,000 was awarded to Arnold Feldman, store manager, King Cole Market No. 5, Burbank, Calif. Mr. Feldman used 110 cases of "Sweetheart" soap to build a cylindrical floor-to-ceiling display.

CETIOL V

For superfatting of creams use

CETIOL V*

a natural oil consisting of oleic acid esters
of liquid fatty alcohols
CETIOL V is non-irritant
CETIOL V is extremely fluid
CETIOL V has an excellent skin
penetration effect
CETIOL V is an outstanding solvent
for lipoid soluble active ingredients

*) (Registered Trademark at U.S. Patent Office.)

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Sole Distributors in USA:
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165 Broadway,
New York 6, N.Y.

Sole Distributors in Canada:
Canerpa Limited
Suite 223, Drummond Building
1117 St. Catherine Street West
Montreal, Que.

Room 709
137 Wellington Street West
Toronto, Ont.

A 102-57

Frawley Succeeds Reif as Colgate-Palmolive Household Products General Sales Manager

Michael P. Frawley

Eugene E. Buckner

Frank W. Reif

MICHAEL P. FRAWLEY has been named to succeed Frank W. Reif as general sales manager of the household products division of Colgate-Palmolive Co., New York, it was announced recently. Mr. Reif retired last month after 38 years with the company.

At the same time, William T. Miller, division vice-president, announced that Eugene E. Buckner, formerly assistant sales manager, will succeed Mr. Frawley as division sales manager.

Mr. Frawley joined Colgate in 1932 as a salesman in the Springfield, Mass., district. He became regional manager in 1946, assistant sales manager of the division in 1954 and sales manager in 1956.

Mr. Buckner, who joined the company in 1940, became a district manager in 1949, a regional manager in 1953, and three years later became assistant sales manager in 1956.

A native of Scranton, Pa., Mr. Reif entered Colgate's employ in 1919. He worked his way up from displayman to salesman to assistant district manager. Later he served as supervisor of the northeastern Pennsylvania district; district manager in both Birmingham, Ala., and Richmond, Va., and as division manager in Atlanta. Prior to his most recent assignment in 1954, Mr. Reif had been manager of the soap department's New York division.

New Oakite Sales Reps.

Oakite Products, Inc., New York, recently announced appointment of two technical sales representatives. Donald O. Mundale has been named representative in Marion, O., while James E. Davenport has been assigned to Rocky Mount, N.C. Mr. Mundale formerly was company representative in Asheville, N.C. Mr. Davenport recently completed an eight-week training course at Oakite's New York headquarters.

★

In New Borax Post

Appointment of Raymond C. Dosta as treasurer of United States Borax & Chemical Corp., Los Angeles, was announced last month by James M. Gerstley, president. Mr. Dosta formerly had been assistant treasurer. He succeeds R. F. Steel, who recently was named assistant general manager. He joined Pacific Coast Borax Co., in 1951 as tax manager, was made assistant controller the following year, and became assistant treasurer when the company merged with United States Potash in 1956.

★

New Heyden Newport Plant

Heyden Newport Chemical Corp., New York, recently announced construction of a new naval stores plant at Telogia, Fla. According to Simon Askin, president, the new unit will produce pine oil, rosin, turpentine and dipentene. Completion is scheduled for late this year.

At the same time, it was also announced that Charles H. Shields, Jr., has joined the company's market development. He previously was associated with General Electric Co., as a product engineer.

Koczwara Joins Mona

John J. Koczwara has joined Mona Industries, Inc., Paterson, N. J., as sales representative in metropolitan New York and northern New Jersey. Mr. Koczwara formerly was general manager of the cosmetic division of Botany Mills, Inc., Passaic, N. J., with which he was associated for 15 years.

★

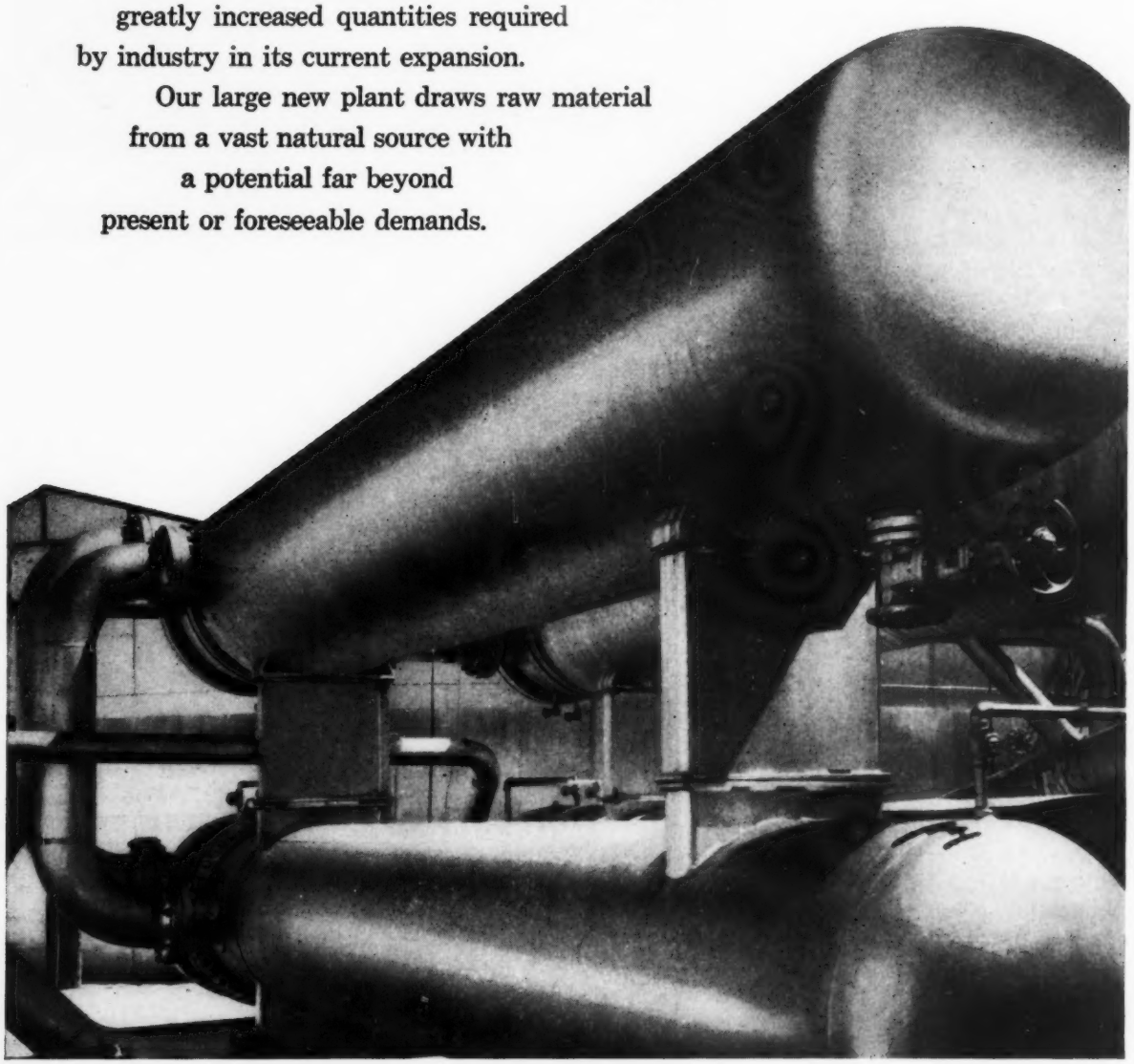
Black to Procter & Gamble

Procter & Gamble Co., Cincinnati, recently announced appointment of Frank E. Black as sales representative in its Spokane, Wash., district. According to David Gilkey, Spokane sales manager, Mr. Black will cover territory bounded by Baker on the south and Lewiston to the north. For the past several years, Mr. Black was associated with a Walla Walla, Wash., lumber concern.

ANHYDROUS SODIUM SULFATE is a primary West End product and we have the production capacity to meet your needs

At West End, sodium sulfate is a prime product... not a by-product... and is being produced in the greatly increased quantities required by industry in its current expansion.

Our large new plant draws raw material from a vast natural source with a potential far beyond present or foreseeable demands.



WEST END

West End Chemical Company

DIVISION OF STAUFFER CHEMICAL COMPANY

EXECUTIVE OFFICES, 1956 WEBSTER, OAKLAND 12, CALIF. • PLANT, WESTEND, CALIF.

SODA ASH • BORAX • SODIUM SULFATE • SALT CAKE • HYDRATED LIME

New GAF Surfactant Plant

Full scale production was begun last month at the new Calvert City, Ky., surfactant plant of General Aniline & Film Corp., New York, according to Phillip M. Dickins, vice-president and general manager of the company's dyestuff and chemical division. The new installation occupies part of a 55-acre tract on which General Aniline's new acetylene chemicals plant is located.

The new unit will produce alkylphenols and "Igepal" and "Alipal" type surfactants. "Igepals" are nonionic surfactants designed for use in the manufacture of household detergents. "Alipals," sodium or ammonium salts of sulfate esters of "Igepals", are utilized mainly in liquid detergents. The two products also have numerous applications in the industrial detergent field.

Mr. Dickins also announced the construction at Linden, N. J. of a methylene oxide-ethylene glycol plant with a total capacity of 60 million pounds per year. Ethylene oxide is reacted with alkylphenols to form nonionic surfactants of the "Igepal" type. The products manufactured at the Calvert City unit will be marketed by the company's Antara Sales Division.

★

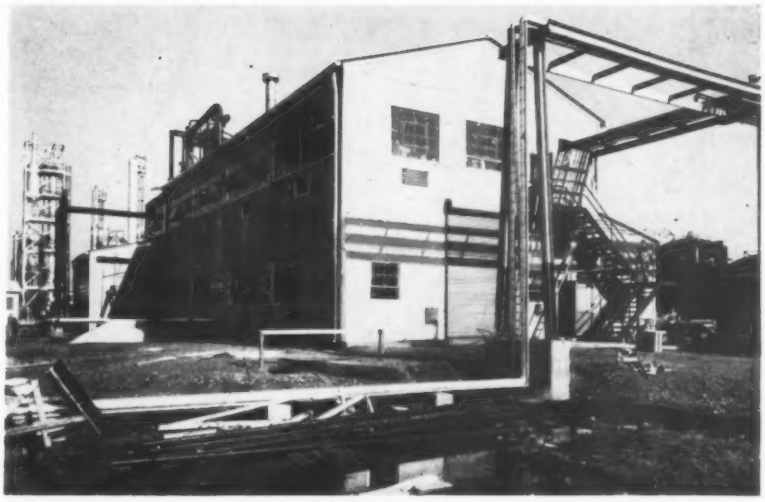
MCA Safety Citation

The Manufacturing Chemists' Association 1956 Safety Achievement Award was presented recently to L. C. Goode, plant manager of the Moundsville, W. Va. plant of National Aniline Division of Allied Chemical & Dye Corp., New York. Presentation was made by M. A. Conner, division vice-president. It marked the third successive year that the Moundsville plant has won this award.

★

Jefferson Names Roach

Jefferson Chemical Co., Houston, Tex., recently announced appointment of R. M. Roach as New York district sales manager. The company also reported the transfer of R. J. Robinson from its Cleveland office to New York and J. H. Luger from Houston to Cleveland to take over the territory formerly handled by Mr. Luger. All appointments were effective as of June 15.



New Calvert City, Ky., surfactant plant of General Aniline & Film Corp., New York.

★

Hercules Shifts Three

New assignments for three technical representatives of the synthetics department of Hercules Powder Co., Wilmington, Del., were announced recently by James W. L. Monkman, the department's director of sales. The new assignments involve the transfers of Arthur C. Ketchum, Jr., from the company's Albany office to Wilmington; William L. Kitchell from Wilmington to New York, and Joseph O. Bradford to the home office in Wilmington from the New York branch.

★

New Lien Executives

Lien Chemical Co., Franklin Park, Ill., has appointed two new sales executives. Frank B. Jeremia becomes director of sales and Edward L. Hitchcock is sales manager.

The appointments were announced by Carl B. Lien, president, who also revealed plans for a program that will provide additional products and services for its customers. Both announcements were made at a recent general sales meeting held at the River Forest Country Club.

Present at the meeting were all members of the home office sales staff, as well as branch managers and branch salesmen from Milwaukee, South Bend, Rockford, Ill., and Miami, Fla. Lien's new merchandise catalog also was introduced at the meeting. The completely revised catalog is said to be the largest and most complete in the sanitary supply field.

★

New Calgon Detergent

A new all-purpose commercial detergent designed for washing dishes, glassware, pots and pans, stainless steelware, tanks, sanitary pipe lines, food processing equipment and floors, was introduced recently by Calgon Co., Pittsburgh. Called "Pinnacle," the new product may also be used as a water conditioner. It is said to prevent film and scum caused by hard water minerals and also to dissolve old film and dulling deposits. "Pinnacle" is available in four-pound foil-wrapped packages and in 100 and 325-pound drums.

★

Morgan to Reilly Tar

Robert K. Morgan has joined Reilly Tar & Chemical Corp., Indianapolis, as sales representative in the eastern district. Mr. Morgan will headquarter at the firm's Tuckahoe, N. Y. office.

Patronize one store more than any other?

IF YOU DO, it's a sure sign you know what you want. You do business with one store because you like the quality of their merchandise, and you are confident that their service will be all that you desire.

Well, these same two reasons explain why people buy Wyandotte chlorine.

They know that we pamper our chlorine every step of the way . . . that Wyandotte chlorine is under rigid control — from basic raw materials to the finished product delivered at their door. And they have confidence in Wyandotte's sincere, deep-rooted technical service.

Plus . . .

The guarantee of satisfaction that goes with all Wyandotte chlorine!

You can see why folks who know what they want *like* buying chlorine from Wyandotte. Why don't you write us about *your* chlorine needs today? *Wyandotte Chemicals Corporation, Wyandotte, Michigan. Offices in principal cities.*

Wyandotte CHEMICALS
MICHIGAN ALKALI DIVISION

For guaranteed satisfaction, buy Wyandotte Chlorine

Head Carbide Silicone Div.

R. S. Abrams and L. K. Sinott have been appointed general manager and general sales manager, respectively of the silicone division of Union Carbide Corp., New York, it was announced recently by W. B. Humes, division president.

Mr. Sinott, joined Carbide in 1942. He was named manager of Linde's silicone department in 1953 and continued in that post when Carbide formed a separate silicone division last year.

With Carbide since 1941, Mr. Abrams became manager of the silicone plant at Long Reach, W. Va., in 1955. Earlier this year he was appointed manager of production and engineering for the silicone division.

★

Miss Zella Greathouse Dies

Miss Zella Greathouse, a retired secretary of Davies-Young Soap Co., Dayton, where she had been employed for 52 years, died July 11 at Good Samaritan Hospital, Dayton. She was 85 years old.

★

Pesticides Output Higher

Total output of pesticides and other organic agricultural chemicals was about 570 million pounds in 1956, about 13 per cent more than the 506 million pounds reported in 1955, according to the United States Tariff Commission. Sales in 1956 were more than 395 million pounds, valued at $173,000,000. Sales in 1955 were 415 million pounds, valued at $153,000,000.

★

Nopco Fetes Veterans

Nopco Chemical Co., Harrison, N. J., recently honored 22 employees who have completed 15 years service, and eight who have been with the concern for 25 years. At a company party, Ralph Wechsler, Nopco president, presented the new members of the quarter-of-a-century club with their choice of a gold watch, photographic equipment or silver. The 15 years veterans each received a gold pin.

Lever Appoints Parry

John L. Parry has been appointed general manager of the industrial division of Lever Brothers Co., New York, it was announced last month by John P. Moser, vice-president. Mr. Parry succeeds William H. Cochrane, who resigned to become executive vice-president of Neptune Meter Co., New York manufacturer of measurement and control equipment.

John L. Parry

Mr. Parry formerly was sales manager of industrial edible products. In his new post, he will be responsible for marketing the firm's industrial detergents, fatty acids and glycerine. He joined Lever in 1948 and was named edible products sales manager in 1950.

William H. Cochrane

Prior to joining Lever in July, 1952, Mr. Cochrane was associated with American Alcolac Corp., Baltimore, and with U. S. Industrial Chemicals, Inc., where he was general manager.

Solvay Appoints Two

Verne W. Aubel, Jr. has been named assistant sales director for the Solvay Process Division of Allied Chemical & Dye Corp., New York, it was announced recently by Lester B. Gordon, Solvay vice-president. Mr. Aubel formerly was manager of Solvay's Philadelphia sales branch. He will be succeeded in that position by Kenneth M. Dillabough, previously a member of the Philadelphia staff.

Mr. Aubel joined Solvay in 1939 as a salesman. For the past three years, he has managed the Philadelphia branch. Mr. Dillabough has been with Solvay's sales department since 1926. His territories have included Philadelphia, Baltimore, Washington, D. C., and Virginia.

Verne W. Aubel, Jr.

Kenneth M. Dillabough

Chemway Appoints Anschel

Chemway Corp., Mountain View, N. J., has appointed Eugene Anschel as vice-president and general manager of its newly-established international division, it was announced recently by Charles T. Silloway, president. For the past five years, Mr. Anschel had been manager of international activities for Nepera Chemical Co., Yonkers, N. Y.

Mr. Silloway said that the appointment of Mr. Anschel is the first step in a major expansion program for the company's overseas operations, annual sales of which currently are $2,000,000.

★

Boyd to General Mills

Thomas H. Boyd has joined General Mills, Inc., Minneapolis, as New York district sales representative for the chemicals division. The appointment was announced last month by Alfred G. deMeurisse, the division's New York district sales manager. Mr. Boyd was a sales representative for Pittsburgh Coke and Chemical Co. for the past nine years. In his new position he is responsible for sales in the New York area of fatty acids, fatty nitrogen compounds, fatty methyl esters, "Versamid" polyamide resins, and sterols.

★

Detergents AOCS Topic

Symposia on soaps, detergents and color or whiteness specifications and measurement will highlight the 31st annual fall meeting of the American Oil Chemists' Society, to be held at the Netherland Hilton Hotel, Cincinnati, Sept. 30-Oct. 2. The announcement was made recently by A. K. Presnell, Andrew Jergens Co., Cincinnati, general chairman.

In addition, plant tours are scheduled for Tuesday afternoon, Oct. 1. According to Frank L. Jackson, Procter & Gamble Co., Cincinnati, exhibits chairman, members will have a choice among P&G, Emery Industries, Inc., Jergens, Archer-Daniels-Midland Co., and Cincinnati Milling Machine Co. plants.

TO ACHIEVE THE OUTSTANDING IN NEW FRAGRANCES FOR YOUR

Perfumes
Cosmetics
Soaps

Look to the name that has been outstanding in the achievements of perfume history. As exclusive American representatives of

TOMBAREL FRERES, S. A., Grasse, France
(1837 - 1957)

we can give your products what it takes to reach new highs in consumer favor.

Put your fragrance problems up to us.

Absolute Supreme Flower Essences
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CHICAGO—A. C. DRURY & CO., Inc., 219 East North Water Street

It takes more than "just shellac" to give your self-polishing floor waxes sales appeal.

We can *prove* to you that VAC-DRY is the best wax-free shellac you can use in your floor waxes. It will give you —

- lighter-colored film
- longer shelf life
- greater solubility and stability with less alkali

plus

- higher gloss
- improved leveling
- greater anti-slip
- longer wear

Just drop us a line for full information and generous test samples. We'll be glad to cooperate in making your trial tests. Write on your company letterhead to

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New York 19, N. Y.

319 No. Western Ave.
Chicago 12, Ill.

McInnes CSC Sales Head

Appointment of James McInnes, Jr., as sales manager of the New York district office of Commercial Solvents Corp., New York, was announced last month by James V. O'Leary, general sales manager. Mr. McInnes succeeds Arthur W. Luedeke, who recently was named head of the company's mid-Atlantic office. In his new post, Mr. McInnes will handle sales of CSC's complete line of industrial and automotive chemicals.

James McInnes, Jr.

Mr. McInnes joined the company in 1933, when it acquired Rossville Commercial Alcohol Co., with which he had been associated since 1929. He became assistant manager of the New York district sales office in 1945.

★

Johnson Appoints Russell

The appointment of George Russell as south Texas zone manager for S. C. Johnson & Son, Inc., Racine, Wis., was announced recently. In his new capacity, Mr. Russell will be in charge of the San Antonio, Corpus Christi, Austin and Rio Grande markets.

★

New du Pont Sales Offices

Two new district sales offices in Pittsburgh and Houston were opened recently by the industrial chemicals sales section of the polychemicals department of E. I. du Pont de Nemours & Co., Wilmington, Del. Richard C. Cecil and Robert B. Micklewright, formerly of the Wilmington office, have been assigned, respectively, to the Pittsburgh and Houston districts as sales representatives.

Other sales representatives reassigned include: Edward W. Smith, from Detroit to Philadelphia; Robert L. Harbour, from Akron to Detroit; and Thomas J. Coonan, formerly representative for "Zerone" and "Zerex" antifreezes, to San Francisco.

★

Laporte on Amer. Home Bd.

Election of William F. Laporte as a director of American Home Products Corp., New York, was announced last month by Alvin Brush, chairman. Mr. Laporte is a vice-president of the firm. He formerly was president of Whitehall Pharmacal Co., a subsidiary of American Home Products.

★

Durez Names Cain

Durez Plastics Division of Hooker Electrochemical Co., North Tonawanda, N. Y., recently announced appointment of Charles Y. Cain as administrative assistant to the general sales manager. Mr. Cain formerly was sales manager of "Hetron" polyesters. He joined Hooker in 1940 and four years later became a sales representative in the midwest. He was named Chicago district manager in 1952 and manager of plastics sales in 1954. He transferred to Durez and became "Hetron" sales manager in 1955.

Charles Y. Cain

Kutol Jobber Contest

Kutol Products, Inc., Cincinnati, manufacturer of powdered hand soaps, will sponsor a jobber sales contest this fall as part of a campaign to gain new customers, according to William Rhodenbaugh, general sales manager. The contest will run from Sept. 16 to Oct. 26.

William S. Rhodenbaugh

Jobber salesmen who sign up six new Kutol accounts with sales totaling $150 during the contest period will be awarded $42.50 "Benrus" watches. Any account which has not purchased "Kutol" hand soaps during the previous 12 months will be considered a new customer.

A grand prize of a $100 "Benrus" watch will be presented to the jobber salesman who opens the largest number of new accounts during the six-week period. All watches will be available in the salesman's choice of men's or women's.

★

Carbide Shifts Four

Union Carbide Chemicals Co., New York, recently announced the following managerial changes: G. E. Kuehn, previously Buffalo, N. Y., district manager, has been named manager of the Detroit district. He will be succeeded in Buffalo by D. F. Swartz, formerly Baltimore district manager. Julian Paul formerly Boston district manager has been appointed head of the Baltimore district.

Lester Anniversary Dinner

Lester Laboratories, Inc., Atlanta, Ga., recently celebrated its 10th anniversary with a buffet dinner for its employees at its East Point, Ga., plant. Aside from the Atlanta staff, company representatives from Ohio, Kentucky, Virginia, North and South Carolina, Georgia, Alabama, Mississippi and Florida attended the affair.

The firm began operations in 1947 at East Point with a small plant and one salesman. Today it ranks with the leading chemical specialty manufacturers of the Southeast. Its products, which include degreasers and insecticides, are marketed nationally as well as in many foreign countries.

In addition to Lester A. Friedman, Jr., president, company officials include Will Pels, vice-president, and Dr. Frederick W. J. Liu, chief chemist.

★

DeLargey in New Post

Robert J. DeLargey has been named assistant division manager of operations for the Westvaco Chlor-Alkali Division of Food Machinery & Chemical Corp., New York. In his new assignment, Mr. DeLargey will direct the division's production, research and development activities. He formerly was director of engineering for FMC's chemical divisions. Previous to this, he was resident manager of FMC's largest chemical plant, the South Charleston, W. Va., unit of Westvaco.

Robert J. DeLargey

★

Newman in New Post

James W. Newman has been appointed treasurer of Lehn & Fink Products Corp., New York, it was announced last month by Edward Plaut, president. Assistant treasurer since 1938 and secretary since 1955, Mr. Newman has been with the company for 31 years. He also is a member of the board of directors. Mr. Newman succeeds A. R. M. Boyle, who retired recently after 32 years as treasurer.

James W. Newman

Century Brand Stearic Acid Beads

CENTURY BRAND

beaded fatty acids and glycerides are dust-free

Customers report that they prefer to use Century Brand *beaded* fatty acids and glycerides. Beads do not break during handling or shipment to create nuisance dust that can cause employee discomfort and plant clean-up problems.

Century Brand fatty acids are made in every grade required by industry. The quality of each grade is carefully maintained to assure that no customer will receive off-grade materials. Harchem Division can supply Century Brand fatty acids in any desired quantities at competitive prices.

Ask for a free sample of the Century Brand *beaded* fatty acids suited for your application. Your requests will be answered promptly.

HARCHEM® CENTURY BRAND

HARCHEM DIVISION
WALLACE & TIERNAN INC.
(SUCCESSOR TO: W. C. HARDESTY CO., INC.)
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H-27

Raymond L. Copson

Copson in New Post

Appointment of Raymond L. Copson as assistant to the director of development for the Solvay Process Division of Allied Chemical & Dye Corp., New York, was announced recently. Dr. Copson has been in charge of research and development for Allied's Mutual Chemical Division. Mutual became affiliated with Solvay this past January. In his new position, Dr. Copson will continue to supervise research and development of Mutual's chemical products.

★

Ladd to UBS Chemical

Donald B. Ladd has joined UBS Chemical Corp., Cambridge, Mass., as a marketing analyst, it was announced recently. In his new post, Mr. Ladd will be responsible for establishment of a commercial research department. He formerly was associated with Carborundum Co., Niagara Falls, N. Y., as marketing analyst.

Donald B. Ladd

★

Simoniz Appoints Johnson

Appointment of M. H. Johnson to the position of sales manager of Simoniz Co., Ltd., Toronto, was announced recently by R. P. Fox, vice-president and general manager. Mr. Johnson previously had been active in the hardware, grocery and automotive trade industries.

Wyandotte Sales Up

Sales and earnings of Wyandotte Chemicals Corp., Wyandotte, Mich., showed a slight increase in the first half of 1957, it was announced recently. Net sales for the period totaled $40,153,276, as compared with $37,194,039, in the corresponding period of 1956. Net income for the six months ended June 30 increased to $2,208,722, equal to share earnings of $1.37, from $2,157,704 and $1.33, in a similar period a year ago.

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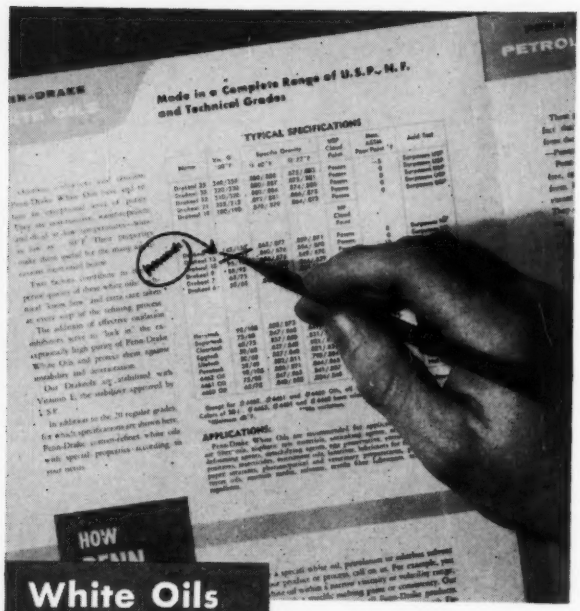

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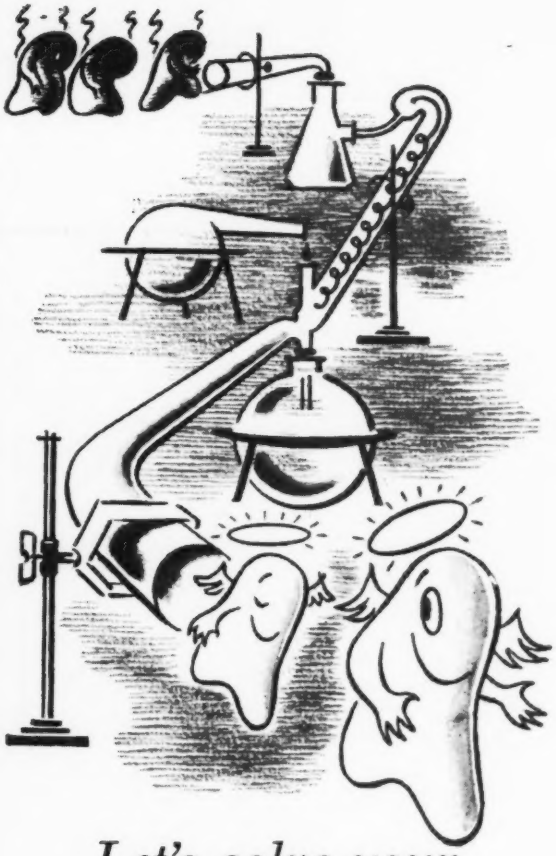

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Penick Advances Capkovitz

Appointment of Stephen G. Capkovitz as manager of the perfume, flavor and aromatic chemi-

Stephen G. Capkovitz

cals division of S. B. Penick & Co., New York, was announced recently. Mr. Capkovitz joined Penick in January of this year as a technical sales representative. Previously, he had been head of the perfumery division of Colgate-Palmolive Co., New York, and had also served as chief chemist of Prince Matchabelli, Inc., New York.

The company also announced the appointment of Edwin G. Allison as division sales manager and James Burgess as assistant sales manager.

★

Luedeke New CSC Manager

Arthur W. Luedeke has been named manager of the newly-established mid-Atlantic office of Commercial Solvents Corp., New York,

Arthur W. Luedeke

it was announced recently by J. V. O'Leary, general sales manager. The new office is located at 196-202 Blanchard St., Newark, N. J. It will serve New Jersey, eastern Pennsylvania, Maryland, Delaware, Virginia, North Carolina and the District of Columbia.

Mr. Luedeke joined CSC in 1937. He was named manager of the Cleveland district in 1941 and of the New York office in 1952.

★

Clorox Approves Merger

Stockholders of Clorox Chemical Co., Oakland, Calif., manufacturers of household bleaches and disinfectants, late last month approved the sale of the company's assets to Procter & Gamble Co., Cincinnati. The transaction was consummated by exchange of ten shares of Clorox common stock for each eight and one-half shares of Procter & Gamble.

P&G plans to operate Clorox as a wholly-owned subsidiary to be known as Clorox Co. W. J. Roth, Clorox president, will remain with the organization as a P&G director and a consultant of the new subsidiary.

★

New Hooker Phila. Office

Hooker Electrochemical Co., Niagara Falls, N. Y., last month opened a new district sales office at 6 Penn Center Plaza, Philadelphia 3. Neil M. Barber has been named Philadelphia district manager, while John J. Wojnar has been appointed office manager. The new branch will serve Pennsylvania, southern New Jersey, eastern West Virginia, and all states east of the Mississippi River and south of Kentucky. It will also serve as headquarters for representatives of Hooker's Durez Plastics Division.

Mr. Barber joined Hooker in 1942, transferred to sales three years later, and has been Philadelphia representative since 1948. With the firm since 1954, Mr. Wojnar originally served in the research and development department as an analytical chemist. He transferred to sales in 1956.

B&W Names Naughton

Appointment of John M. Naughton as sales manager of B&W Chemical Co., 14526 S. Garfield

John M. Naughton

Ave., Paramount, Calif., was announced recently by H. C. Brumbaugh, president. In his new post, Mr. Naughton will handle sales of the firm's complete line of chemical products and waxes. For the past four years he had been associated with a large eastern chemicals manufacturer as sales representative in San Francisco and northern California. It was also announced that B&W recently began construction of a new plant at Harbor City, Calif., which when completed, will triple its production capacity.

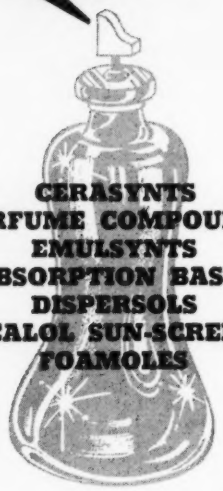
★

AIC Elects Starkman

Jesse H. Starkman, cosmetic chemist and assistant technical director of Van Dyk & Co., New York,

Jesse H. Starkman

Aero-Solve
YOUR PROBLEM
with
van dyk's
raw materials



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EMULSYNTS
ABSORPTION BASES
DISPERSOLS
ESCALOL SUN-SCREENS
FOAMOLES

Putting cosmetics in aerosols involves many technical considerations. The cosmetic base, the perfume, the propellant, the container, and the valve are only part of the problem. The manufacturer must be sure that each component is entirely compatible with the others. He must be absolutely positive that it remains that way until the customer throws the empty container away.

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Belleville, New Jersey

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recently was elected a fellow of the American Institute of Chemists. Mr. Starkman joined Van Dyk in 1952, and is in charge of development of cosmetic formulations.

★

To Assist Johnson Head

Floyd Springer, Jr., has been appointed special assistant to the president of S. C. Johnson & Son, Inc., Racine, Wis., it was announced recently. Since July, 1956, Mr. Springer had served as a public information officer on the White House staff in Washington, D. C. Prior to that, he was associated with the Foreign Operations Administration for two years in a similar capacity. In his new post, he will serve as secretary of the company's contributions and associations committee and will work with the public relations department.

New Artloom Division Name

Artloom Carpet Co., Philadelphia, last month changed the name of its chemical products division to Duo-Dellay Products and moved the division's general offices to its manufacturing plant at 4201 Pulaski Highway, Baltimore 24. The move was made to expedite handling and processing of orders, according to Gordon S. Clausen, division head. Duo-Dellay manufactures a complete line of rug cleaners and upholstery shampoos.

★

Beeson to Michigan Chem.

Justin L. Beeson has joined the engineering staff of Michigan Chemical Co., St. Louis, Mich., it was announced recently by Dwight Williams, director of research. Mr. Beeson formerly was associated with Goodyear Tire and Rubber Co., Akron, O.

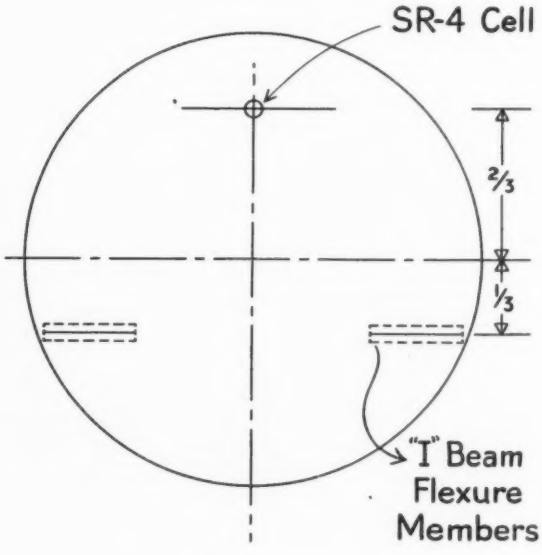
Weighing "Glim"

(*From Page* 161)

Any weight placed on the steel column distorts the column and the "SR-4" strain gages bonded to it and creates a change in resistance which unbalances the circuit. The resulting variation in the voltage output is immediately interpreted by the dial indicator.

When the system was first installed at the Babbitt plant, a calibrated graph was prepared in terms of known amounts of water. The weighing system is periodically checked against this graph by filling the tank with metered water and comparing instrument readings with the graph.

Sustained accuracy, requiring little readjustment, low maintenance cost, and compactness are the main advantages of the load cell system compared with the average knife-edge system.



Plan view: Nine-foot diameter blending tank rests on Baldwin SR-4 load cell weigh system and two permanent steel I-beam supports. Sketch shows how SR-4 load cell is located in relation to I-beams so that two-thirds of tank's weight rests on the SR-4 unit. This arrangement compares with other installations in which the tank is either suspended from one load cell or mounted on three. In the latter arrangement the entire weight of the tank is measured directly.

Monsanto Sales Record

Sales of Monsanto Chemical Co., St. Louis, and its domestic and Canadian subsidiaries, for the first six months of this year advanced six per cent to an all-time high of $298,146,000, from $280,257,000 in 1956. Net income totaled $22,164,000, equal to share earnings of $1.03, as compared with $21,975,000 and $1.03, in the first six months of 1956.

Second quarter sales of $145,861,000, gained four per cent from $139,646,000 of 1956. Net income was $10,630,000, equal to share earnings of 49 cents, compared with $10,720,000 and 50 cents a year ago.

★

CSC Earnings Lower

Commercial Solvents Corp., New York, last month reported a slight increase in sales and a decline in income and earnings for the first half of 1957. Net sales for the first six months of 1957 totaled $29,367,290, as compared with $29,276,834, in the corresponding period of 1956. Net income for the six months ended with June 30 amounted to $1,231,407, equal to share earnings of 45 cents. This compares with $1,672,130 and 61 cents in the first half of 1956.

★

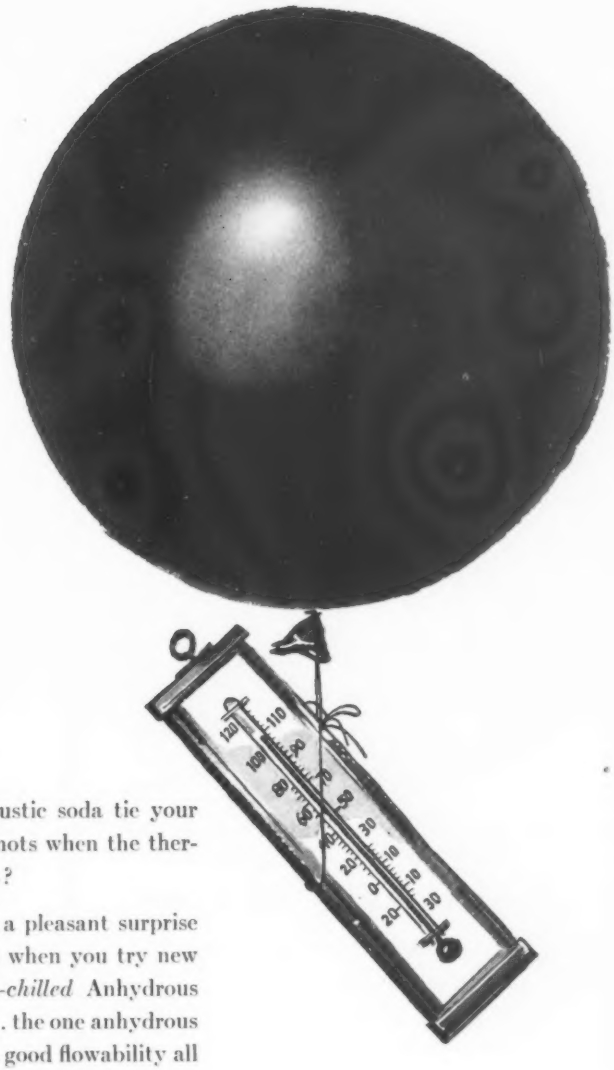
D&O Names Brickner

John T. Brickner has been appointed manager of the Los Angeles branch of Dodge & Olcott, Inc., New York. The office is located at 908 Olive St. Previously, Mr. Brickner was associated with Vitaminerals, Inc., Glendale, Calif.

★

Richmond Takes Lederer

James W. Lederer, son of Harold G. Lederer of R. M. Hollingshead Corp., Camden, N.J., recently went on inactive duty with the Air Force. Young Jim was a first lieutenant and spent three years serving in England. He has joined Richmond Oil, Soap & Chemical Co., Philadelphia, as divisional sales manager. He will be in charge of Richmond's southern territory with headquarters in Greensboro, N.C.



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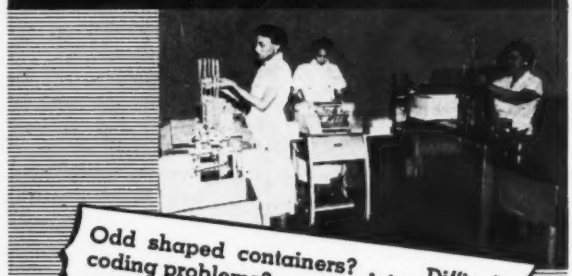

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Faber Joins Schimmel

John A. Faber has joined Schimmel & Co., New York perfuming materials firm, as special assistant to the president, Gert Keller, it was announced recently. Mr. Faber formerly was associated with Schimmel Boehm, Ltd., London. Previously, he had served with Fredk. Boehm, Ltd., London and Glidden Co., Cleveland.

John A. Faber

★

Conn. Approves Poison Ctr.

The establishment of a state poison information center in Connecticut is provided for in a law based on Senate Bill 194, which became effective June 7. This is the first time in the U. S. such a center has specifically been approved by state law, according to the Chemical Specialties Manufacturers Association.

The purpose of the center is to "establish and maintain a file on the general composition of substances which, if ingested, inhaled or applied topically to any part of the body, (might) cause . . . possible toxic reactions." The center will establish and maintain a file on such potentially toxic substances. This file will include information on the material's physiological effects, on the symptoms and signs of toxic reactions which it may produce, and on any specific antidotes which may be indicated. In addition, the center will establish and maintain a toxicological reference file or library. It will disseminate pertinent information to hospitals in the state, which serve as regional centers. These regional centers will be kept informed by means of duplicate index sets, periodic bulletins, etc. Information available in the main and local centers will be provided on request. Needed data not on file will be procured if possible.

★

New Aerogon Waxes

Two new readily emulsifiable waxes were introduced last month by Aerogon Chemical Industries, 240 Broadway, New York 7. "Aerok E-24" and "Aerok E-600" combine high acid values, 40 and 60, respectively, with pale yellow color. A special oxidation process accounts for this combination and for the emulsifying characteristics of these waxes, according to Kurt J. Wasserman, Aerogon's general manager. They form emulsions with various amines and/or inorganic alkalies without addition of fatty acids. Both waxes can carry inert hydrocarbons, silicones, pigments, solvents, and other hard-to-emulsify materials into aqueous systems.

"Aerok E-24" is particularly suitable for formulation of plastic finishes based on acrylic, polystyrene, and polyvinyl polymers. "Aerok E-600" can be dispersed with ammonia only, if desired. It may find application in waterproofing emulsions for textiles, paper, etc. and as a dye solubilizing wax for the carbon paper industry.

Samples and literature are available from the manufacturer.

A. L. Feldman Honored

A. L. Feldman, president and founder of Puritan Chemical Co., Atlanta, Ga., last month was elected an honorary member of Kappa Phi Kappa, one of the nation's leading honor fraternal organizations of educators. Mr. Feldman received the membership certificate at ceremonies held at Emory University. The award was given to him for "outstanding contributions to education in Georgia. Mr. Feldman founded Puritan in 1920.

A. L. Feldman

Peck's Producers Co., St. Louis, held a two-day sales meeting recently at Bar K Ranch near Austin, Tex., to announce a new merchandising program for "Super Pexide Machine Dish-washing Compound." At the meeting were the entire sales staffs of Corpus Christi Janitor Supply Co.; Jim Turner Co., Houston; Miller-Norris Co., Oklahoma City; Bancroft Paper Co., Shreveport, La.; Underwood Chemical Co., San Angelo, Tex.; Hunter Co., San Antonio; Austin Chemical Co.; Marquis Supply Co., Lubbock, Tex.; Southwest Sanitary Supply Co., Dallas; and B&B Sales Co., Rockford, Ill.

"Hi-fax" Plant on Stream

The first plant in America to make "Hi-fax" high-density polyethylene on a commercial scale by the Ziegler process was opened June 20 by Hercules Powder Co. Wilmington, Del., at its Parlin, N. J. plant site. Professor Karl Ziegler of the Max Planck Institute in Germany was present at the opening ceremony.

Capacity of the new production unit is 30,000,000 pounds of polyethylene a year. The new material combines established properties of conventional polyethylene with increased hardness, stiffness, abrasion and heat resistance, higher density and tensile strength. Consequently "Hi-fax" can be sterilized by boiling and is less permeable to gases and vapors. It can be shaped by any of the procedures commonly used in the plastics industries and lends itself to vacuum forming, an operation gaining popularity in the industry. "Hi-fax" molding powder comes in its natural shade or in color.

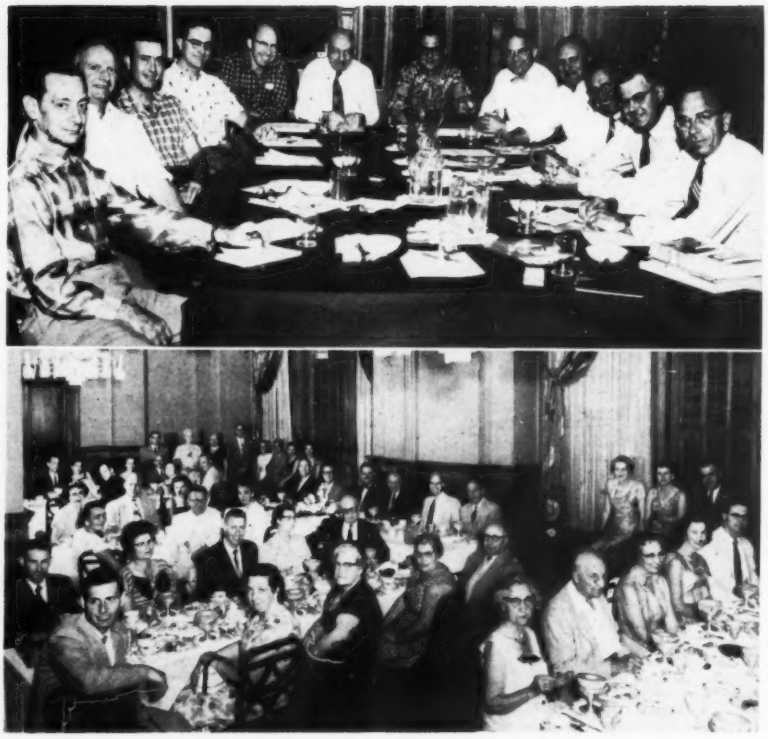
Prior to the opening of the Parlin plant, Hercules had sold over a million pounds of the material obtained through a two-way agreement with Farbwerke Hoechst A. G. Hoechst was the first company to translate the Ziegler processes from the laboratory to commercial production. Hercules has also done extensive pilot and semi commercial scale work on the project.

The plant at Parlin uses as raw material ethylene, which is delivered by pipeline from Esso Standard's refinery at Linden, N. J.

—★—

Mich. Chem. Named Rep.

Michigan Chemical Corp., St. Louis, Mich., has been appointed exclusive national and international sales representative of the petrochemicals division of Swan-Finch Oil Corp., New York. Present plans call for Michigan Chemical to utilize the latter's sales and distribution staffs. The division manufactures lubricating oils and greases for the automotive and agricultural implement industries.



Home office executives and regional sales managers of Majestic Wax Co., Denver, Col., met in that city last month for a four-day sales meeting and concurrent banquet to mark the firm's 32nd anniversary. Shown gathered around conference table are, left to right: Harry Tabak, Frank S. Nicholls, M. Shubinski, Jr., Ralph Tidwell, Don S. Strauss, plant manager, H. G. Strauss, president, Irving Goldstein, general sales manager, Charles H. Gibbs, vice president, Jerry Dehoff, R. J. Patton, Robert Heidersbach, McDonald-Thompson, publisher's representative; and Walter L. Schump, advertising agency for Majestic Wax Co. Bottom photo shows an over-all view taken during the banquet.

1955 Annual Survey of Manufactures, Bureau of the Census, Series MAS-55-2

Value Of Shipments Of Selected Classes Of Products, For The United States: 1955, 1954, and 1947

Code no.	Class of products	Value of shipments 1955 ($1,000)	1954 ($1,000)	1947 ($1,000)
2841-	Soap and glycerine	500,437	480,841	956,499
28411	Soaps, except specialty packaged	298,598	309,401	705,888
28412	Soaps, except specialty bulk	(S)	49,021	101,781
28413	Specialty soaps	47,046	42,949	26,841
28414	Glycerine	75,706	75,810	88,576
28410	Not specified by kind	(S)	3,660	33,413
2842-	Cleaning and polishing products	1,082,711	997,899	350,651
28421	Synthetic organic detergents, packaged	551,647	504,144	93,242
28422	Synthetic organic detergents, bulk	108,478	92,775	41,526
28423	Specialty detergents	93,114	91,177	43,697
28424	Polishing preparations and related products	236,013	225,555	110,147
28425	Alkaline detergents	80,422	71,372	36,488
28420	Not specified by kind	(S)	12,876	25,551
2899-	Chemical products, n.e.c.	695,061	596,772	361,732
28991	Household insecticides and repellants	67,876	60,635	27,653
28992	Weed killers (herbicidal preparations)	40,807	36,344	7,924
28993	Chemical specialties	574,646	490,571	306,112
28990	Not specified by kind	(S)	9,222	20,043
3581-	Domestic laundry equipment	732,870	596,349	433,851
35811	Household mechanical washing machines	505,289	435,853	344,716
35812	Other household laundry equipment	188,629	122,639	42,249
35813	Parts, accessories, and attachments for household laundry equipment	38,952	37,857	46,886

S Withheld because estimate did not meet publication standards.

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Chemical Engineer and Chemist
(Formerly Director of Science, Government of the Philippine Islands; Retired Chief, Bureau of Chemistry, State of California Department of (Agriculture.)
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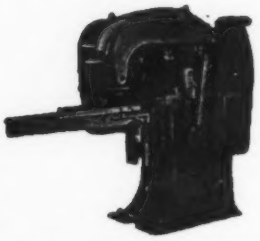

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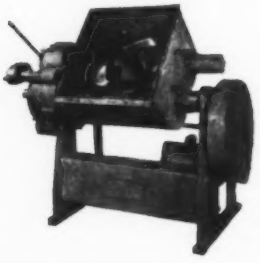

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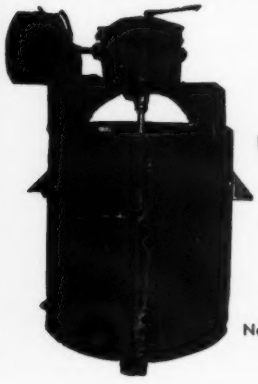
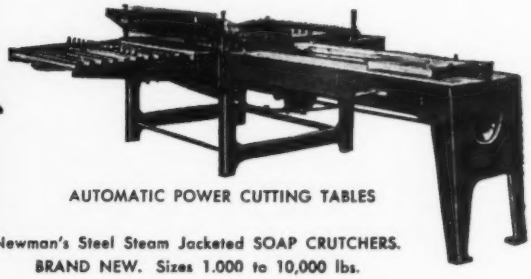


Single or double arm mixers, jacketed or unjacketed, all sizes.



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Sales Manager: Large eastern corporation seeks a sales manager for its sanitary supply division, a man who knows the ropes, who can take charge of all sales operations including the hiring and training of new salesmen. A top job with a top company selling to large industrial and institutional consumers. Applications in complete confidence. Address Box 874, c/o *Soap*.

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Sales: Over 15 years experience essential oils, aromatic chemicals and flavors. Familiar with all phases of sales promotion and sales management relating to aromatics and flavors. Currently employed. Seeking wider opportunity to utilize sales contacts and experience. Address Box 879, c/o *Soap*.

(*Reference Books see page 208*)

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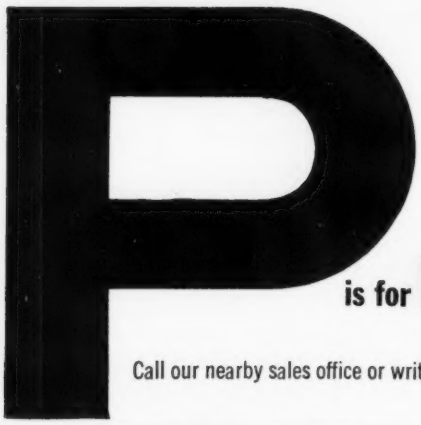
Soapmaker - Chemist: German soapmaker and chemist, 30, with fat splitting experience seeks position with progressive firm in the U.S.A., South America, Canada or other country. Specialist in modern washing powder. Now with synthetic detergent branch of former I. G. Farben. Address Box 880, c/o *Soap*.

Available: For consulting work, oil refining soap making, and glycerine manufacturing. Address Box 873, c/o *Soap*.

For Sale

For Sale: Back copies of SOAP magazine from August 1940 through December 1953. We are moving to smaller quarters so we are forced to sell our back copy file. Mr. B. Winer, 146 South 9th St., Brooklyn 11, N. Y.

(*Continued on Page 205*)



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Available: 64 page listing of "Synthetic Detergents Up-to-Date", (1955). Write John W. McCutcheon, 475 Fifth Ave., New York 17, N. Y.

For Sale: Small company manufacturing insecticides, fungicides, home garden products, etc. Over 50 years in business, outstanding reputation, well-known brand names, sold nationally, strongest east and mid-west. Sale would include all manufacturing and packaging equipment. Plant located in east. Excellent purchase for firm already in chemical specialty business. For details, write Box 875, c/o *Soap*.

For Sale: Nickel clad evaporators 250 & 400 square feet. Buffalo 32" x 90" Flaker; 1900 gal. jacketed crutchers; ribbon mixers, 336 and 56 cu. ft.; Gemco 6′ dia. Conical Blender; (6) double arm Sigma Blade Mixers 2½, 5, 50, 75 and 100 gal. Perry Equipment Corp., 1410 N. 6th St., Phila. 22, Pa.

For Sale: Used Brown Bag Automatic Filling & Sealing machine, Model No. P.F. 100, with a ½ H.P. motor, running condition. Address Box 881, c/o *Soap*.

Interested in Chemical Specialties, See page 94 for more complete details.

For Sale

For Sale: B. I. E. Newman, 818 W. Superior St., Chicago, Ill. Crutchers 1000-8000#; Wrapper type S; Plodder 10"; Auto. table 2 way; Jones auto. presses; 100-8000# powder mixers; 1500 gal. steel tank, with coils; boilers; soap and chemical plants. Details on request.

For Sale: 1 World semi-automatic labeler, model S. Good running condition, $300.00. The Gilbreth Co., 1211 Chestnut Street, Philadelphia 7, Pa.

Miscellaneous

Wanted: Dough-Mixer, 80-100 gallon, for sweeping compounds, and 500 lb. ribbon-type powder mixer. Indicate condition and price. Address Box 876, c/o *Soap*.

Wanted: We need the following back copies of *Soap* to complete our library:—March 1950; August 1949; May 1946; April & August 1945; January 1944; January & February 1943. Write Dr. R. K. Lehne, Research Dept., Wildroot Co., Inc. Buffalo 11, N.Y.

Two Becco Appointments

William H. Kibbel, Jr., and Vernon E. Moore have been named managers of market research and the west coast territory, respectively, of Becco Chemical Division of Food Machinery and Chemical Corp., Buffalo, N. Y., announced recently.

With Becco since 1947, Mr. Kibbel joined the research and development department in 1949. He was appointed a sales representative in 1952 and manager of the west coast territory a year later. Mr. Moore came with Becco in 1953 and was made a sales representative on the west coast in January, 1954.

—★—

Walter W. Freystedt Dies

Walter W. Freystedt, first vice-president of Alsop Engineering Corp., Milldale, Conn., died suddenly on June 2. Mr. Freystedt had been associated with Alsop for more than 30 years, the last 20 of which he was in charge of the New York sales office.

—★—

Dow Corning Shifts Three

Appointment of three supervisors at the new Greensboro, N. C., silicone plant of Dow Corning Corp., Midland, Mich., was announced recently by A. William Rhodes, silicone division manager. Frederick R. Matthews has been named plant manager, while L. Peter Larsen and Jerald L. Griffin have been appointed production superintendent and an accounting supervisor, respectively. All three men formerly had been employed at the Midland home office.

With Dow Corning since early 1956, Mr. Matthews previously had served in the silicone specialties department. Mr. Larsen, who has been with the company for 11 years, formerly was production supervisor of silicone specialties, while Mr. Griffin, with Dow since 1954, had been accounting supervisor of the silicone department.

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N. C. to Label Cleaners

Solvent cleaners containing certain volatile substances and sold for household use in North Carolina now must be labeled with a warning as to contents and directions for safe use. A law based on North Carolina House Bill 936 covering such products became effective June 10, 1957.

"Volatile substances capable of producing toxic effects" covered by the law include, but are not limited to, the following: benzene (benzol), toluene (toluol), coal tar naphtha, carbon tetrachloride, trichlorethylene, tetrachlorethylene (perchlorethylene), tetrachlorthane, methyl alcohol, and aromatic and chlorinated hydrocarbons of comparable volatility and toxicity.

—★—

Milano to Head Mantrose

Robert J. Milano has been elected president of Mantrose Corp., Brooklyn, N. Y., it was announced last month. He succeeds Morris A. Rosen, who has been elected chairman of the board. Mr. Milano is also president of Millmaster Chemical Corp., New York,

Robert J. Milano

and Berkeley Chemical Corp., Berkeley Heights, N. J.

Mantrose also announced the appointment of Jerome F. McGinty as treasurer. Adrian E. Jacobs remains as vice-president, with Joseph E. Sternberg continuing as secretary. Mr. Milano said that all other Mantrose management and personnel will remain unchanged.

Carbide Plans Expansion

Union Carbide Chemicals Co., New York, recently announced plans for construction of a new plant in Putnam County, W. Va., for manufacture of basic chemical products and raw materials. Included among these items are ethylene, propylene, ethanol, ethylene oxide and isopropanol. According to D. B. Benedict, president, the new plant will be completed in 1960 and will employ about 500 persons. Mr. Benedict added that "the plant will be designed for the greatest possible flexibility to meet changes in the market demands for chemicals as they occur in the future."

—★—

Chicago Shulton Rep.

Davis & Davis, Inc., 740 North Rush St., Chicago, has been named manufacturers' representative for the fine chemicals division of Shulton, Inc., Clifton, N. J. The firm will handle sales of Shulton's line of over 50 fine chemicals in the Chicago area.

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Viola Heads New Firm

Formation of Visom, Inc., 336 Nepperhan Ave., Yonkers, N. Y., was announced last month

Leonard J. Viola

by Leonard J. Viola, president. The new concern will manufacture shampoos and other cosmetic preparations for sale to beauty salons.

Mr. Viola formerly was director of research and development for Caryl Richards, Inc., Brooklyn, N. Y. Prior to that, he had been cosmetic research chemist for the Richard Hudnut Division of Warner Lambert Pharmaceutical Co., Morris Plains, N. J.

—★—

Hooker Earnings Lower

Sales and income of Hooker Electrochemical Co., Niagara Falls, N. Y., and its wholly-owned subsidiaries showed a decline for the first six months of its fiscal year ended May 31.

First half net sales totaled $53,765,600, compared with $55,131,500, in the six months ended May 31, 1956. Net income amounted to $4,596,200, equal to share earnings of 70 cents. This compares with $6,187,800 and 94 cents in the corresponding period of a year ago.

—★—

MM&R Appoints Lacey

W. H. Lacey has been appointed mid-Atlantic sales representative for Magnus, Mabee & Reynard, Inc., New York, it was announced recently. Mr. Lacey will handle sales of the firm's complete line of essential oils and aromatic chemicals in Pennsylvania, southern New Jersey, Delaware and eastern Maryland.

—★—

In New Monsanto Posts

Monsanto Chemical Co., St. Louis, recently announced the appointment of Robert M. Erickson as assistant to the director of manufacturing for the inorganic chemicals division. For the past four years, Mr. Erickson had been manager of the consumer products division. In his new assignment, he will coordinate manufacturing activities relating to the sale of "All" and "Dishwasher All" to Lever Brothers Co., New York. Lever recently completed an agreement with Monsanto to market these products.

At the same time, the company also announced that Robert S. McCann has joined the production control group of the inorganic chemicals division. Mr. McCann previously was manager of the consumer products division's order department.

New Polish Concentrate

A new water-activated polish concentrate for use on all-wood finishes, furniture, plastics, glass,

leather, metal finishes, paint and washable wall paper, was introduced recently by Protective Coatings, Inc., Detroit. Called "Patrician," the new product is said to be non-toxic, easy to apply and provide long-lasting protection. Dilution ratio is two-ounces to one pint and one pint to one gallon.

ULTRAGRAM

(up-to-date information on detergents, wetting agents and foaming agents)

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Coming Meetings

American Chemical Society, national meeting, New York, Sept. 8-13.

American Oil Chemists Society, fall meeting, Cincinnati, Sept. 30, Oct. 1 and 2.

American Public Health Association, 85th annual meeting, Public Auditorium, Cleveland, Nov. 11-15.

Association of American Soap & Glycerine Producers, 31st annual convention, Waldorf-Astoria Hotel, New York, Jan. 22-24, 1958.

Chemical Industries, 26th Exposition, Coliseum, New York, Dec. 2-6.

Chemical Market Research Association, Lake Placid, N. Y., Sept. 16-17.

Chemical Specialties Manufacturers Association, 44th annual meeting, Hollywood Beach Hotel, Hollywood, Fla., Dec. 9-12; 44th midyear meeting, Netherland Plaza Hotel, Cincinnati, May 19-21.

Drug, Chemical and Allied Trades Section, New York Board of Trade, 67th annual meeting, Galen Hall, Wernersville, Pa., Sept. 19-21, 1957.

Entomological Society of America, annual meeting, Peabody Hotel, Memphis, Tenn., Dec. 2-5.

Grocery Manufacturers of America, 49th annual meeting, Waldorf Astoria Hotel, New York, Nov. 11-13, 1957.

International Sanitation Maintenance Show & Conference, 2nd annual exposition, Navy Pier, Chicago, Oct. 14-16.

National Agricultural Chemicals Association, annual meeting, Essex and Sussex Hotel, Spring Lake, N. J., Sept. 4-6.

National Hotel Exposition, 42nd show, Coliseum, New York, Nov. 11-15.

National Pest Control Association 24th annual convention, Louisville, Ky., Oct. 21-24.

National Sanitary Supply Association, 35th annual convention and trade show, Coliseum, New York, Feb. 22-24, 1958; district 8 meeting, Olympic Hotel, Seattle, Aug. 21; district 5, Galvez Hotel, Galveston, Tex., Sept. 20-21.

National Supermarket Non-Food Exhibit, Shrine Exposition Hall, Los Angeles, August 25-28.

Packaging Machinery & Materials Convention, Convention Hall, Atlantic City, N. J., March 25-28, 1958.

Plant Maintenance & Engineering Show, 9th annual exposition, International Amphitheater, Chicago, Jan. 27-30.

Salesmen's Association of the American Chemical Industry, sales clinic, Roosevelt Hotel, New York, Oct. 14.

Synthetic Organic Chemical Manufacturers Association, monthly luncheon meetings, Roosevelt Hotel, New York, Sept. 10, Oct. 8, Nov. 12.

Toilet Goods Association, 23rd annual convention, Poland Spring House, Poland, Maine, June 25-29, 1958; scientific section, Waldorf Astoria Hotel, New York, Dec. 9, 1957, and June 5, 1958.

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Tale Ends

WHEN the governor's son gets a job in a summer hotel as a dishwasher, that's America. And when he comes up with a nickname, Soapy, like his old man, that's also America. The governor happens to be G. Mennen Williams of Michigan, born to soap on both sides of his family. The lad is none other than his 16 year old son, Gary Williams, a high school student, who is a dishwasher at a Mackinac Island hotel. Soapy, the father's nickname for years, has now been stamped upon our boy dishwasher by guests and help alike.

* * * * *

Mosquitoes can be really annoying to patrons of outdoor movies during the hot, sticky summer weather. So now, outdoor theatre owners in mosquito-infested spots are doing something about it to prevent a falling off in attendance. Some owners are already handing out small packages of "Off," the new S. C. Johnson & Son insect repellent based on diethyl toluamide, enough to protect the customer while he, she or it watches the double feature under the stars.

* * * * *

"All pesticides termed dangerous to humans" says a headline in the Milwaukee Journal, which goes on to say that "even household sprays can be lethal." They then go on to cite several instances of people who used household insecticides and died subsequently. They admit all deaths had possible contributing factors, maybe the people were going to die anyway,—but this latter in the fine print down in the body of the article. Also we note the fine spencerian hand of the American Medical Association which is quoted by the author. We tab it as another grab by AMA for more newspaper publicity with highly inaccurate and sensational news releases.

* * * * *

For stealing soap samples sent by mail, a Queens, New York City, postman was recently arrested. It seems he had stashed away three cakes of the soap and a copy of Esquire Magazine in a store, apparently intending to return for them later. So for the soap and magazine with a total value of less than a dollar, the postman, ready to retire at the end of the year has jeopardized an annual pension of $2350 and is faced with a jail term of up to five years. It makes one wonder after 30 years service in delivering mail if this was the first time or whether it took 30 years to catch him.

* * * * *

That mosquitoes and houseflies are among the most unpopular insects encountered by the American householder probably comes as no surprise. This was determined in a 33-state poll conducted by the U. S. Department of Agriculture, in which about three-fourths of the states listed mosquitoes and house flies among the most important household pest of 1956. Termites and other wood-attacking insects, fabric pests—especially carpet beetles and clothes moths — and cockroaches cropped up as highly annoying pests in more than half the state lists. The big surprise came in the case of clover mites, which were among the top 10 in 11 states, boxelder bugs in five and earwigs in five. A table based on these findings has been compiled by the Agricultural Research Service of USDA and appears in a recent issue of its Cooperative Economic Insect Report.

* * * * *

From the retail news section of one of the south's newspapers we came across this sentence: "Gulfspray can also be bought in the Aerosol Bomb, the container that just sprays directly from the can." A definition that should certainly be added to CSMA's list of aerosol terms.

* * * * *

The concern that the annual meeting of CSMA in Hollywood Beach, Florida next December might not draw as well as previous conventions, because of distance and the fact it is being held at a resort hotel, seems to be without foundation. Early this month over 750 reservations for rooms had been received, according to Doc Hamilton, CSMA secretary. In fact, it now looks as though there might be a problem in accommodating everyone at the Hollywood Beach Hotel, convention headquarters. For those who have not done so as yet we'd advise getting a reservation into CSMA—not the hotel—fast.

* * * * *

Samuel C. Johnson, director of the new product department and the fourth generation of the ruling family at S. C. Johnson & Son, told an interesting story about himself recently. The occasion for the story was a speech he made on new products development before a general management conference of the American Management Assn. in NYC. A few weeks after he had been on the job as new products director at Johnson, Young Sam was given a cartoon by a group of younger executives at the company. The caption read: "This is the boss' son, Sam. He's going to start at the bottom for a few days." Sam pointed out in his speech before the AMA group that he didn't start at the bottom even for a few days. "I started nearer the top and now I'm in the process of working myself down," he quipped.

* * * * *

Neatest promotion trick of the month: the use of foil coupons by Lever Brothers to stir up sales interest in its new foil wrapped multi-color line of "Lux" toilet soaps.

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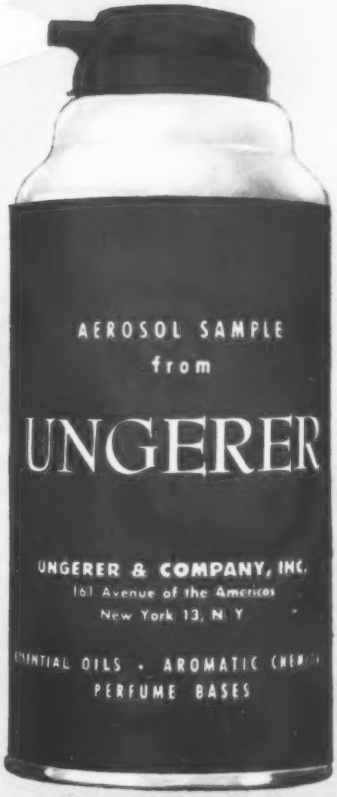

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